123726

Scientific & Technical Information Center
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Search Request Form

Today's Date: 6/3/04

What date would you like to use to limit the search?
Priority Date: ~~[illegible]~~ 1/31/2002 Other:

Name Kuen S. Lu

AU 2177 Examiner # 79991

Room # PK2 4A32 Phone 315-4094

Serial # 10/059,233

Format for Search Results (Circle One):
PAPER & DISK EMAIL

Where have you searched so far?
USP DWPI EPO JPO ACM IBM TDB
IEEE INSPEC SPI Other google

Is this a "Fast & Focused" Search Request? (Circle One) YES NO
A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at http://ptoweb/patents/stic/stic-tc2100.htm.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

data replication (based upon a) non-destructive ~~da~~ data model

(Key word ~~is~~ strings are "non-destrive data model" for "data replication")

The two string must be binding together.

This is not for data replication, it is for data replication upon non-destructive data model

Additional

Key words are high-lighted as attached.

Thanks 305-4894

STIC Searcher Terese Esterheld Phone 308-7795

Date picked up 6/3/04 1:45pm Date Completed

SIRA Search and Information Resources Administration

```
Set      Items    Description
S1       26575    (DATA OR FILE? ?)(5N)( REPLICAT? OR UPDAT? OR UP()DAT?)
S2           0    (NONDESTRUCTIVE OR NON()DESTRUCTIVE)()DATA()MODEL
S3     2148429    ATOM? OR ELEMENT?
S4     5655495    APPEND? OR (ADD OR TACK)()ON OR ADDITION? OR JOIN? OR UNITE
                   OR AFFIX? OR ATTACH? OR CONNECT? OR ANNEX? OR PLACE OR PUT()-
                  "IN"
S5        7610    S3 ()(GRAPH? OR TUPLE OR TABLE? OR ARRAY? OR MATRIX? OR MA-
                  TRICES OR COLUMN? OR ROW?)
S6     2040459    STORE? OR STORAGE OR MEMORY
S7     2967980    OPERATION? OR INSTRUCTION? OR FUNCTION? OR EXECUTION?
S8       62743    (ANOTHER OR TARGET OR SECOND OR 2ND OR ADDITIONAL OR DIFFE-
                  RENT)(2W)(DEVICE? OR COMPUTER? OR CLIENT?  OR NODE? OR PROCES-
                  SOR? OR MICROPROCESSOR? OR MICROCOMPUTER? OR MICRO()(PROCESSO-
                  R? OR COMPUTER?))
S9     1271797    HISTOR? OR CONDITION? OR STATUS OR LOG? ?
S10    2346359    UPDAT? OR CHANG? OR  MODIF? OR REVIS? OR  ALTER? OR UP()(D-
                  ATING OR DATE? ? OR GRADE? ?) OR UPGRADE? ? OR REPLENISH? OR -
                  SYNCHRONI? OR MIRRORING
S11    3911744    TRANSMIT? OR TRANSFER? OR TRANSMISSION OR COMMUNICAT? OR C-
                  ONVEY OR CONVEYING OR DELIVER? OR HANDOVER OR TURNOVER OR (HA-
                  ND? OR TURN?)()OVER OR SEND?
S12       2150    S3 AND S4 AND S5
S13        307    S12 AND S6
S14         95    S13 AND S7
S15         73    S9 AND S10 AND S8 AND S11 AND S3
S16          0    S14 AND S15
S17          5    S14 AND S9
S18          2    S15 AND S1
S19          2    S15 AND S5
S20          8    S17 OR S18 OR S19
S21          5    S20 AND IC=G06F?
S22          1    S20 AND MC=(T01-F05E OR T01-N02B1A)
S23          5    S21 OR S22
File 347:JAPIO Nov 1976-2004/Jan(Updated 040506)
         (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200434
         (c) 2004  Thomson Derwent
```

23/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

02663401 **Image available**
DELAY TIME OPTIMIZING METHOD

PUB. NO.: 63-280301 [JP 63280301 A]
PUBLISHED: November 17, 1988 (19881117)
INVENTOR(s): SHIMIZU TSUGUO
KAGEYAMA NAOHIRO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 62-114591 [JP 87114591]
FILED: May 13, 1987 (19870513)
INTL CLASS: [4] G05B-013/00; **G06F-015/56** ; **G06F-015/60**
JAPIO CLASS: 22.3 (MACHINERY -- Control & Regulation); 42.4 (ELECTRONICS -- Basic Circuits); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 840, Vol. 13, No. 98, Pg. 130, March 08, 1989 (19890308)

ABSTRACT

PURPOSE: To suppress the increase of the number of gates by detecting a critical path which does not fulfill a delay time **condition** in a logic circuit and changing the number of stages of logic so that the delay time **condition** is fulfilled.

CONSTITUTION: This delay time optimizing method consists of a delay time optimizing system 100, a logic **element table** 200, and a critical path table 200, and the system 100 consists of a critical path detecting part 110, a critical path dividing part 120, and a logic stage number optimizing part 130. The logic **element table** 200 has names, **connection** relation information, and **functions** of all logic **elements** in the logic circuit as the design object, and they are inputted to said path detecting part 110. Logic **elements** on critical paths in the table 200 are **stored** in said path table 300, and they are inputted to the dividing part 120 and the logic stage number optimizing part 130. Then, the delay time is obtained for each logic **element** to calculate the delay time of the whole of one path.

23/5/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

01076857 **Image available**
DATA PROCESSOR FOR LOGICAL SIMULATION

PUB. NO.: 58-014257 [JP 58014257 A]
PUBLISHED: January 27, 1983 (19830127)
INVENTOR(s): KAWATO NOBUAKI
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 56-111901 [JP 81111901]
FILED: July 17, 1981 (19810717)
INTL CLASS: [3] **G06F-011/28**
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 190, Vol. 07, No. 87, Pg. 96, April 12, 1983 (19830412)

ABSTRACT

PURPOSE: To constitute a system suitable for a logical simulation, by constituting a **status** section storing **connecting** information of a logical circuit and the circuit **status** with a plurality of **storage** blocks and operating units so that a parallel processing can be possible for the **operation** .

CONSTITUTION: A control section 5 controls the processing process for the entire device. Data corresponding to an event table are **stored** in an event section 6 and the data are transmitted to a **status** section 7 as required. The **status** section 7 is constituted with a plurality of blocks for possible pipeline processing and data corresponding to an **element table** , and input value table and an output table are **stored** in the section 7. An **operation** section 8 consists of a plurality of **operation** units, the decision of a new **status** value of **elements** is executed in parallel and the result is transmitted to the event section 6.

23/5/3 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015693367 **Image available**
WPI Acc No: 2003-755556/200371
XRPX Acc No: N03-605381
Replication **of** data **at multiple devices in** data **distribution system, involves** updating history **of** data **object at** another device **by** transmitting **required** atom **from given device to other device**
Patent Assignee: NEXTPAGE INC (NEXT-N); BARNETT R C (BARN-I); NGO J T (NGOJ-I)
Inventor: BARNETT R C; NGO T J; NGO J T
Number of Countries: 102 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20030145020	A1	20030731	US 200259233	A	20020131	200371	B
WO 200365223	A1	20030807	WO 2003US2750	A	20030131	200371	
AU 2003210739	A1	20030902	AU 2003210739	A	20030131	200422	

Priority Applications (No Type Date): US 200259233 A 20020131
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030145020	A1		21	G06F-017/30	
WO 200365223	A1	E		G06F-012/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW

AU 2003210739 A1 G06F-012/00 Based on patent WO 200365223

Abstract (Basic): US 20030145020 A1
NOVELTY - The method involves adding an **atom** (26,28,30,32,34,36) of a first type to an **atom graph** (24) in a store at a given device when an operation is performed on a data object (22) at the given device. The **history** of the **data** object at **another device** is **updated** by **transmitting** the **atom** , which is present in the store at the given device but is absent in the store at the other device, from the given device to the other device.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a **data replicating** system.
USE - For **replication** of **data** at multiple devices in data distribution system.
ADVANTAGE - Provides framework for **data replication** which can support long periods of disconnection and is compatible with each **data** flow technique for **replication** .
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of **atom graph** for data object.
Data object (22)
Atom graph (24)
Atom (26,28,30,32,34,36)
pp; 21 DwgNo 2/8

Title Terms: REPLICA; DATA; MULTIPLE; DEVICE; DATA; DISTRIBUTE; SYSTEM; **UPDATE** ; **HISTORY** ; DATA; OBJECT; DEVICE; **TRANSMIT** ; REQUIRE; **ATOM** ; DEVICE; DEVICE
Derwent Class: T01
International Patent Class (Main): **G06F-012/00** ; **G06F-017/30**
International Patent Class (Additional): **G06F-015/167** ; **G06F-015/1677** ; **G06F-017/21** ; **G06F-017/211**
File Segment: EPI

23/5/4 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011215161 **Image available**
WPI Acc No: 1997-193086/199717
Related WPI Acc No: 1999-276911; 2000-663688; 2001-327610; 2001-440312; 2002-130081
XRPX Acc No: N97-159450
On-line, transparent data migration system for replacement of data storage sub-system - in which host computer reads data from and writes data to data storage device which includes data elements **currently being accessed by host computer**
Patent Assignee: EMC CORP (EMCE-N)
Inventor: OFEK Y; YANAI M
Number of Countries: 020 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9709676	A1	19970313	WO 96US13781	A	19960829	199717	B
EP 789877	A1	19970820	EP 96930609	A	19960829	199738	
			WO 96US13781	A	19960829		
US 5680640	A	19971021	US 95522903	A	19950901	199748	
JP 10508967	W	19980902	JP 96535206	A	19960829	199845	
			WO 96US13781	A	19960829		
KR 97707492	A	19971201	WO 96US13781	A	19960829	199847	
			KR 97702900	A	19970501		
EP 1160654	A1	20011205	EP 96930609	A	19960829	200203	
			EP 2001203306	A	19960829		
EP 789877	B1	20020710	EP 96930609	A	19960829	200253	
			WO 96US13781	A	19960829		
			EP 2001203306	A	19960829		
DE 69622253	E	20020814	DE 622253	A	19960829	200261	
			EP 96930609	A	19960829		
			WO 96US13781	A	19960829		

Priority Applications (No Type Date): US 95522903 A 19950901
Cited Patents: US 3771137
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9709676	A1	E	32	G06F-012/00	
Designated States (National): JP KR					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
EP 789877	A1	E		G06F-012/00	Based on patent WO 9709676
Designated States (Regional): DE FR GB IT					
US 5680640	A		13	G06F-013/10	
JP 10508967	W		34	G06F-012/00	Based on patent WO 9709676
KR 97707492	A			G06F-012/00	Based on patent WO 9709676
EP 1160654	A1	E		G06F-003/06	Div ex application EP 96930609
					Div ex patent EP 789877
Designated States (Regional): DE FR GB IT					
EP 789877	B1	E		G06F-012/00	Related to application EP 2001203306
					Related to patent EP 1160654
					Based on patent WO 9709676
Designated States (Regional): DE FR GB IT					
DE 69622253	E			G06F-012/00	Based on patent EP 789877
					Based on patent WO 9709676

Abstract (Basic): WO 9709[illegible] A

The system (25,27) provides on-line, real-time, transparent data migration from a first data storage system (14) to a second data storage system (16) which is interposed between a host (12) and the first data storage system. A data map (24) identifies data **elements** stored in the second data storage system and corresponding data **elements** copied from the first to the second data storage system.

In response to a host data request, the second data memory retrieves the data if it is stored there. Otherwise, the second data storage system retrieves the data from the first data storage system, writes the **data** to itself and **updates** the **data** map. When not busy servicing requests, the second data storage system copies data from the first to the **second** data storage **device** independently of any coupled host.

USE - On-line replacement of existing data storage sub-system in e.g processing centres of business and e.g banks, airlines and insurance companies etc.

ADVANTAGE - Allows for new or second data storage system to be connected to existing host or other processing system with no time loss in access to data stored in first system.

Dwg.1/4

Title Terms: LINE; TRANSPARENT; DATA; MIGRATION; SYSTEM; REPLACE; DATA; STORAGE; SUB; SYSTEM; HOST; COMPUTER; READ; DATA; WRITING; DATA; DATA; STORAGE; DEVICE; DATA; **ELEMENT** ; CURRENT; ACCESS; HOST; COMPUTER
Derwent Class: T01
International Patent Class (Main): **G06F-003/06** ; **G06F-012/00** ; **G06F-013/10**
International Patent Class (Additional): **G06F-011/14** ; **G06F-012/08** ; **G06F-013/00**
File Segment: EPI

23/5/5 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004241715
WPI Acc No: 1985-068593/198512
XRPX Acc No: N85-051436

Switchable element matrix **scanning for microprocessor keyboard - using control and shift leads for state** change **of** element **and connecting logic gate to 2 output leads**

Patent Assignee: AT & T BELL LAB (AMTT); WESTERN ELECTRIC CO INC (AMTT)
Inventor: MUSSMAN R F
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CA 1182928	A	19850219	CA 418110	A	19821220	198512	B
US 4554530	A	19851119				198549	

Priority Applications (No Type Date): US 81333066 A 19811221
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 1182928	A		21		

Abstract (Basic): CA 1182928 A

The matrix is scanned by employing all available output ports. A state **change** on leads of a port is sensed for retrieving the switched **status** of the **elements** of the matrix, and in the event a **change** is sensed, a code associated with the switched **element** is reported on at least one lead, the lead being connected in parallel to the matrix and a **second** **processor** .

A logic gate connected to the two output scanning leads whose states have been **changed** **transmits** a strobe signal to the data processor indicating the presence of the translated code of the switched **element** . Simultaneously, the translated code is made available for reading on other parallel-connected output leads. **Alternatively** , serial **transmission** is provided in that the states of

both leads to the logic gate **change** simultaneously in accordance with the code to be sent.

ADVANTAGE - Scanning capacity of microprocessor is increased without application of peripheral interface adapter circuit and without increasing quantity of data input and output leads.

3/7

Title Terms: SWITCH; **ELEMENT** ; MATRIX; SCAN; MICROPROCESSOR; KEYBOARD; CONTROL; SHIFT; LEAD; STATE; **CHANGE** ; **ELEMENT** ; CONNECT; LOGIC; GATE; OUTPUT; LEAD

Derwent Class: T01; T04

International Patent Class (Additional): **G06F-003/02**

File Segment: EPI

```
Set     Items   Description
S1      26575   (DATA OR FILE? ?)(5N)( REPLICAT? OR UPDAT? OR UP()DAT?)
S2         40   (NONDESTRUCTIVE OR NON()DESTRUCTIVE)()DATA
S3          0   S1 AND S2
File 347:JAPIO Nov 1976-2004/Jan(Updated 040506)
         (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200434
         (c) 2004  Thomson Derwent
```

```
Set     Items   Description
S1      19772   (DATA OR FILE? ?)(5N)( REPLICAT? OR UPDAT? OR UP()DAT?)
S2          0   (NONDESTRUCTIVE OR NON()DESTRUCTIVE)()DATA()MODEL
S3    3034575   ATOM? OR ELEMENT?
S4    3285580   APPEND? OR (ADD OR TACK)()ON OR ADDITION? OR JOIN? OR UNITE
                 OR AFFIX? OR ATTACH? OR CONNECT? OR ANNEX? OR PLACE OR PUT()-
                "IN"
S5       6834   S3 ()(GRAPH? OR TUPLE OR TABLE? OR ARRAY? OR MATRIX? OR MA-
                TRICES OR COLUMN? OR ROW?)
S6    1032089   STORE? OR STORAGE OR MEMORY
S7    4554802   OPERATION? OR INSTRUCTION? OR FUNCTION? OR EXECUTION?
S8      24922   (ANOTHER OR TARGET OR SECOND OR 2ND OR ADDITIONAL OR DIFFE-
                RENT)(2W)(DEVICE? OR COMPUTER? OR CLIENT?  OR NODE? OR PROCES-
                SOR? OR MICROPROCESSOR? OR MICROCOMPUTER? OR MICRO()(PROCESSO-
                R? OR COMPUTER?))
S9    2989754   HISTOR? OR CONDITION? OR STATUS OR LOG? ?
S10   3968507   UPDAT? OR CHANG? OR  MODIF? OR REVIS? OR  ALTER? OR UP()(D-
                ATING OR DATE? ? OR GRADE? ?) OR UPGRADE? ? OR REPLENISH? OR -
                SYNCHRONI? OR MIRRORING
S11   3653210   TRANSMIT? OR TRANSFER? OR TRANSMISSION OR COMMUNICAT? OR C-
                ONVEY OR CONVEYING OR DELIVER? OR HANDOVER OR TURNOVER OR (HA-
                ND? OR TURN?)()OVER OR SEND?
S12       946   S3 AND S4 AND S5
S13        62   S12 AND S6
S14        24   S13 AND S7
S15        23   S9 AND S10 AND S8 AND S11 AND S3
S16         0   S14 AND S15
S17         3   S14 AND S9
S18         0   S14 AND S1
S19         1   S15 AND S1
S20         0   S15 AND S5
S21        47   S14 OR S15 OR S17
S22        45   S21 NOT PY>2002
S23        45   S22 NOT PD>20020131
S24        36   RD (unique items)
File   8:Ei Compendex(R) 1970-2004/May W4
         (c) 2004 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2004/May
         (c) 2004 ProQuest Info&Learning
File 202:Info. Sci. & Tech. Abs. 1966-2004/May 14
         (c) 2004 EBSCO Publishing
File  65:Inside Conferences 1993-2004/May W5
         (c) 2004 BLDSC all rts. reserv.
File   2:INSPEC 1969-2004/May W4
         (c) 2004 Institution of Electrical Engineers
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
         (c) 2003 EBSCO Pub.
File  94:JICST-EPlus 1985-2004/May W2
         (c)2004 Japan Science and Tech Corp(JST)
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Apr
         (c) 2004 The HW Wilson Co.
File  95:TEME-Technology & Management 1989-2004/May W3
         (c) 2004 FIZ TECHNIK
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
```

24/5/22 (Item 1 from file: 202)
DIALOG(R)File 202:Info. Sci. & Tech. Abs.

2902653
Multiport memory **and method of** operation **thereof.**
Author(s): Iwase, S
Patent Number(s): US 5349561
Publication Date: Sep 20, 1994
Language: English
Document Type: Patent
Record Type: Abstract
Journal Announcement: 2900

A multiport **memory** having a plurality of serial output ports includes a semiconductor **memory** for storing data in a plurality of **memory elements arrayed** in rows and columns and coupled by respective row and column **connecting** lines. A first register **stores** data read in parallel from the semiconductor **memory** via the **connecting** lines of one of the rows and column of the arrayed **memory elements** and serves to supply the data **stored** therein in serial form to a first one of the serial output ports. The first register is also operative to supply the data **stored** therein in parallel to a second register for **storage** therein. The second register is operative to supply the data **stored** therein to a second one of the serial output ports.

Descriptors: Information **storage** ; **Memory** ; Multiprocessing; Operating systems
Classification Codes and Description: 5.04 (Advanced Computing, Parallel Processing); 5.07 (**Storage**)
Main Heading: Information Processing and Control

24/5/26 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

5658743 INSPEC Abstract Number: B9709-8110B-161, C9709-7410B-138
Title: Evaluating and assessing a necessary generation change **in network control systems**
Author(s): Aundrup, T.; Lantermann, J.; Gruning, M.; Aschower, N.
Author Affiliation: VEW Energie AG, Germany
Conference Title: CIRED. 14th International Conference and Exhibition on Electricity Distribution. Part 1: Contributions (Conf. Publ. No.438) Part vol.4 p.4/1-5 vol.4
Publisher: IEE, London, UK
Publication Date: 1997 Country of Publication: UK 7 vol. (xxxi+254+vi+180+228+ix+238+vi+196+166+224) pp.
ISBN: 0 85296 674 1 Material Identity Number: XX97-01550
Conference Title: Proceedings of 14th Biennial International Conference and Exhibition on Electricity Distribution (Distributing Power for the Millennium)
Conference Date: 2-5 June 1997 Conference Location: Birmingham, UK
Language: English Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)
Abstract: As a result of the rapidly advancing computer and **communications** technologies, a major technological shift is expected to take place within the next 5 to 10 years. Among other benefits, it will then be possible for one and the same digital network to be used for voice **communication** , data exchange and office **communications** . As a result, the cost of operating a power systems will be reduced considerably. Standardized interfaces and protocols will allow the computer system to be connected to the data network. Companies will increasingly aim at centralizing all data acquisition and maintenance work so as to eventually be able to eliminate redundant data maintenance activities previously performed on **different computers** . The introduction of open-system

capabilities in the mainframe computer system, as a first step in the upgrading process, would allow the power system to be monitored from remote locations. Malfunction and switching-state information would be **transmitted** in the form text messages. In a second step, graphical representation of the power system's operating **status** and even functions allowing network **elements** to be controlled in the graphics mode could be implemented. This would require a high-capacity data network and appropriate means of ensuring clear identification of **transmitting** and receiving stations. The power system could then be operated in two rather than three shifts. A stand-by crew on night duty could receive relevant information via a data line, allowing costs to be reduced even further. More importantly, the physical and psychological strain currently placed on the operating staff by their three-shift work will be eased, thus humanizing their working **conditions** without compromising system security. (3 Refs)

Subfile: B C

Descriptors: digital **communication** ; management information systems; open systems; power system control; power system security; protocols; substations; telecontrol

Identifiers: power network control systems; generation **change** ; computer technologies; **communications** technologies; digital telecommunication network; interface standardisation; protocol standardisation; open-system capabilities; mainframe computer system; graphical representation; power system security

Class Codes: B8110B (Power system management, operation and economics); B6210J (Telemetry); B6210L (Computer communications); B8375 (Substations); B6150M (Protocols); C7410B (Power engineering computing); C3340H (Control of electric power systems); C7420 (Control engineering computing); C3250 (Telecontrol and telemetering components); C5620 (Computer networks and techniques); C5640 (Protocols)

```
Set      Items    Description
S1       96077    (DATA OR FILE? ?)(5N)( REPLICAT? OR UPDAT? OR UP()DAT?)
S2           0    (NONDESTRUCTIVE OR NON()DESTRUCTIVE)()DATA()MODEL
S3      965170    ATOM? OR ELEMENT?
S4    11559785    APPEND? OR (ADD OR TACK)()ON OR ADDITION? OR JOIN? OR UNITE
                   OR AFFIX? OR ATTACH? OR CONNECT? OR ANNEX? OR PLACE OR PUT()-
                  "IN"
S5        1140    S3 ()(GRAPH? OR TUPLE OR TABLE? OR ARRAY? OR MATRIX? OR MA-
                  TRICES OR COLUMN? OR ROW?)
S6     3388486    STORE? OR STORAGE OR MEMORY
S7     7243496    OPERATION? OR INSTRUCTION? OR FUNCTION? OR EXECUTION?
S8      109919    (ANOTHER OR TARGET OR SECOND OR 2ND OR ADDITIONAL OR DIFFE-
                  RENT)(2W)(DEVICE? OR COMPUTER? OR CLIENT?  OR NODE? OR PROCES-
                  SOR? OR MICROPROCESSOR? OR MICROCOMPUTER? OR MICRO()(PROCESSO-
                  R? OR COMPUTER?))
S9     5160411    HISTOR? OR CONDITION? OR STATUS OR LOG? ?
S10    8003359    UPDAT? OR CHANG? OR  MODIF? OR REVIS? OR  ALTER? OR UP()(D-
                  ATING OR DATE? ? OR GRADE? ?) OR UPGRADE? ? OR REPLENISH? OR -
                  SYNCHRONI? OR MIRRORING
S11    9669007    TRANSMIT? OR TRANSFER? OR TRANSMISSION OR COMMUNICAT? OR C-
                  ONVEY OR CONVEYING OR DELIVER? OR HANDOVER OR TURNOVER OR (HA-
                  ND? OR TURN?)()OVER OR SEND?
S12        142    S3 (S) S4 (S) S5
S13         18    S12 (S) S6
S14          5    S13 (S) S7
S15         15    S9 (S) S10 (S) S8 (S) S11 (S) S3
S16          0    S12 (S) S15
S17          6    S12 (S) S9
S18          0    S12 (S) S1
S19          0    S15 (S) S1
S20          0    S15 (S) S5
S21         39    S13 OR S14 OR S15 OR S17
S22         37    S21 NOT PY>2002
S23         32    S22 NOT PD>20020131
S24         29    RD (unique items)
File  15:ABI/Inform(R) 1971-2004/Jun 03
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```
Set     Items   Description
S1         94   (NONDESTRUCTIVE OR NON()DESTRUCTIVE)()DATA
S2      62169   (DATA OR FILE? ?)(5N)( REPLICAT? OR UPDAT? OR UP()DAT?)
S3          1   S1 AND S2
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3/5/1 (Item 1 from file: 202)
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0602484
O nekotorykh problemakh razrabotki zapominayushchikh ustroistv tsifrovykh vychislitelnykh mashin. (some problems of developing memory units for digital computers.).
Book Title: In Zapominayushchie Ustroistya. 1968. Leningrad. P. 1-168. In Russian. Translation Available From Ntis As Ad-716 674.
Author(s): Kraizmer, L P; Lashevskii, R A
Publication Date: 1968
Language: Russian
Document Type: Book Chapter
Record Type: Abstract
Journal Announcement: 0600

The rapid development of cybernetic technology involves a continual increase in the exacting requirements for the memory units in computers. Controller, information-logic devices, and other cybernetic equipment. These requirements reduce basically to an increase in capacity, speed, economy, and reliability, as well as a reduction in the overall size of the memory devices. In connection with improving computers, the following are discussed: problems of developing memory units for digital computers, logical principles for organizing the complex of memory devices in digital comuters and systems, automatic information exchange between auxiliary and working memory devices, an associative electronic memory, permanent memory devices, reliability of memory devices, memory control circuits, selecting magnetic cores for memory devices, magnetic storage elements with nondestructive readout (classification principles and criteria for comparative evaluation), analysis of magnetic connections in storage elements with **nondestructive data** readout, and on the problem of criteria for evaluating memory devices.

Classification Codes and Description: 5.01 (**File** Design, Building, and **Updating**)
Main Heading: Information Processing and Control

Terms used
data replication upon a non destructive data model

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Relevance scale

1 Data modeling of time-based media
Simon Gibbs, Christian Breiteneder, Dennis Tsichritzis
May 1994 **ACM SIGMOD Record , Proceedings of the 1994 ACM SIGMOD international conference on Management of data**, Volume 23 Issue 2
Full text available: pdf(1.32 MB) Additional Information: full citation, abstract, references, citings, index terms

Many aspects of time-based media—complex data encoding, compression, "quality factors," timing—appear problematic from a data modeling standpoint. This paper proposes timed streams as the basic abstraction for modeling time-based media. Several media-independent structuring mechanisms are introduced and a data model is presented which, rather than leaving the interpretation of multimedia data to applications, addresses the complex organization and re ...

2 The design of a RISC based multiprocessor chip
Rajiv Gupta, Michael Epstein, Michael Whelan
November 1990 **Proceedings of the 1990 ACM/IEEE conference on Supercomputing**
Full text available: pdf(1.10 MB) Additional Information: full citation, abstract, references

This paper describes the architecture of a RISC based multiprocessor chip. The processors operate in a MIMD fashion executing parallel instruction streams generated by a parallelizing compiler for the exploitation of fine-grained parallelism. Low cost synchronization mechanisms are supported in hardware. The resulting system is tolerant of unpredicatable delays in the progress of individual streams. Instruction level parallelism is exploited through the use of register channels and a mechanism f ...

Keywords: collective branching, fuzzy barrier, parallelizing compiler, register channels, very long instruction word (VLIW) architectures

3 A user-centred approach to functions in excel
Simon Peyton Jones, Alan Blackwell, Margaret Burnett
August 2003 **ACM SIGPLAN Notices , Proceedings of the eighth ACM SIGPLAN international conference on Functional programming**, Volume 38 Issue 9
Full text available: pdf(210.80 KB) Additional Information: full citation, abstract, references, index terms

We describe extensions to the Excel spreadsheet that integrate user-defined functions into the spreadsheet grid, rather than treating them as a "bolt-on". Our first objective was to bring the benefits of additional programming language features to a system that is often not recognised as a programming language. Second, in a project involving the evolution of a well-established language, compatibility with previous versions is a major issue, and maintaining this compatibility was our second objec ...

(Continuation)

```
[Remove the lines in /temp-mount-point/etc/
system file for MDD root information:]
* Begin MDD root info (do not edit)
forceload: misc/md_trans
forceload: misc/md_raid
forceload: misc/md_mirror
forceload: misc/md_hotspares
forceload: misc/md_stripe
forceload: drv/pcipsy
forceload: drv/glm
forceload: drv/sd
rootdev:/pseudo/md@0:0,10,blk
* End MDD root info (do not edit)
[Edit the /temp-mount-point/etc/vfstab file]
Example:
Change from---
/dev/md/dsk/d10   /dev/md/rdsk/d10    /      ufs   1     no       -

Change to---
/dev/dsk/c0t0d0s0 /dev/rdsk/c0t0d0s0  /usr   ufs   1     no       -
[Unmount the temporary file system and check the raw disk device:]
# cd /
# umount /a
# fsck /dev/rdsk/c0t0d0s0
[Reboot in single-user mode:]
# reboot -- "-s"
[Replace the disk ID:]
# scdidadm -R /dev/dsk/c0t0d0
[Recreate state database replicas:]
# metadb -c 3 -af /dev/rdsk/c0t0d0s4
# reboot
Type CTRL-d to boot into multiuser mode.
[Add the node back to the metaset:]
phys-schost-2# metaset -s schost-1 -a -h phys-schost-1
```

▼ How to Restore a Non-Encapsulated root (/) File System (VERITAS Volume Manager)

Use this procedure to restore a non-encapsulated root (/) file system to a node. The node being restored should not be booted. Be sure the cluster is running problem-free before performing the restore procedure.

Note - Since you must partition the new disk using the same format as the failed disk, identify the partitioning scheme before you begin this procedure, and recreate file systems as appropriate.

---

1. **Replace the failed disk on the node where the root file system will be restored.**

4 ARMISTICE: an experience developing management software with Erlang
David Cabrero, Carlos Abalde, Carlos Varela, Laura Castro
August 2003 **Proceedings of the 2003 ACM SIGPLAN workshop on Erlang**
Full text available: pdf(362.35 KB) Additional Information: full citation, abstract, references

In this paper, some experiences of using the concurrent functional language Erlang to implement a classical vertical application, a risk management information system, are presented. Due to the complex nature of the business logic and the interactions involved in the client/server architecture deployed, traditional development techniques are unsatisfactory. First, the nature of the problem suggests an iterative design approach. The use of abstractions (functional patterns) and compositionality (...

Keywords: business logic, client/server architecture, concurrent programming, design patterns, distributed computing, functional programming

5 Media transports and distributed multimedia flows
Mark Baugher
March 1992 **Proceedings of the 1992 ACM/SIGAPP symposium on Applied computing: technological challenges of the 1990's**
Full text available: pdf(1.55 MB) Additional Information: full citation, references, citings, index terms

6 Construction of a fault-tolerant distributed tuple-space
Lewis I. Patterson, Richard S. Turner, Robert M. Hyatt
March 1993 **Proceedings of the 1993 ACM/SIGAPP symposium on Applied computing: states of the art and practice**
Full text available: pdf(634.56 KB) Additional Information: full citation, references, citings, index terms

Keywords: associative memory, fault-tolerance, shared memory

7 Virtual nodes/distributed systems working group
Anthony Gargaro
May 1989 **ACM SIGAda Ada Letters , Proceedings of the third international workshop on Real-time Ada issues**, Volume X Issue 4
Full text available: pdf(1.05 MB) Additional Information: full citation, citings, index terms

8 The gods must be crazy: a matter of time in collaborative systems
Du Li, Limin Zhou, Richard Muntz
December 1999 **ACM SIGGROUP Bulletin**, Volume 20 Issue 3
Full text available: pdf(585.96 KB) Additional Information: full citation, abstract, references

The concept of time in traditional distributed systems has been inherited in the Computer-Supported Collaborative Work (CSCW) literature. The following assumptions have generally been made: (1) Events are atomic and their durations do not matter. (2) Total ordering of events can be achieved by some mechanical algorithm. (3) The relationship between events is determined solely by time (causal relationship). However, we observe that these assumptions are not appropriate if the goal is to faithfull ...

Results 1 - 8 of 8

Refer to disk replacement procedures in the documentation that came with your server.

2. **Boot the node being restored.**
   - If using the Solaris CD-ROM, run the following command:

   ```
   ok boot cdrom -s
   ```

   - If using a JumpStart server, run the following command:

   ```
   ok boot net -s
   ```

3. **Create all the partitions and swap on the root disk using the `format`(1M) command.**

   Recreate the original partitioning scheme that was on the failed disk.

4. **Create the root (/) file system and other file systems as appropriate, using the `newfs`(1M) command.**

   Recreate the original file systems that were on the failed disk.

Note - Be sure to create the `/global/.devices/node@nodeid` file system.

---

5. **Mount the root (/) file system on a temporary mount point.**

   ```
   # mount device temp-mount-point
   ```

6. **Restore the root (/) file system from backup, and unmount and check the file system.**

   ```
   # cd temp-mount-point
   # ufsrestore rvf dump-device
   # rm restoresymtable
   # cd /
   # umount temp-mount-point
   # fsck raw-disk-device
   ```

   The file system is now restored.

7. **Install a new boot block on the new disk.**

Useful downloads: Adobe Acrobat QuickTime Windows Media Player Real Player

```
# /usr/sbin/installboot /usr/platform/'uname -i'/lib/fs/ufs/bootblk raw-disk-device
```

8. **Reboot the node into single-user mode.**

   a. **Start the reboot.**

   ```
   # reboot -- "-s"
   ```

   During this boot you will see error or warning messages, ending with the following instruction:

   ```
   Type control-d to proceed with normal startup,
   (or give root password for system maintenance):
   ```

   b. **Enter the root password.**

9. **Determine if the root disk group is on a single slice on the root disk.**

   - If yes, create and set up the root disk group:

   ```
   # vxdctl init
   # vxdg init rootdg
   # vxdctl add disk diskslice type=simple
   # vxdisk -f init diskslice type=simple
   # vxdg adddisk diskslice
   # vxdctl enable
   ```

   - If no, proceed to Step 10 on page 158.

10. **Update the disk ID using the `scdidadm` command.**

   ```
   # scdidadm -R /dev/rdsk/diskdevice
   ```

11. **Press CTRL-d to resume in multiuser mode.**

   The node reboots into cluster mode. The cluster is ready to use.

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8.3.0.1 Example—Restoring a Non-Encapsulated root (/) File System (VERITAS Volume Manager)

The following example shows a non-encapsulated root (/) file system restored to the node `phys-schost-1` from the tape device `/dev/rmt/0`.

```
[Replace the failed disk and boot the node:]
ok boot cdrom -s
[Use format and newfs to create partitions and file systems]
[Mount the root file system on a temporary mount point:]
# mount /dev/dsk/c0t0d0s0 /a
[Restore the root file system:]
# cd /a
# ufsrestore rvf /dev/rmt/0
# rm restoresymtable
# cd /
# umount /a
# fsck /dev/rdsk/c0t0d0s0
[Install a new boot block:]
# /usr/sbin/installboot /usr/platform/`uname \
-i`/lib/fs/ufs/bootblk /dev/rdsk/c0t0d0s0
[Reboot in single-user mode:]
# reboot -- "-s"
[If the root disk group is on a single slice on the root disk, create the new root disk group:]
# vxdctl init
# vxdg init rootdg
# vxdctl add disk c0t0d0s4 type=simple
# vxdisk -f init c0t0d0s4 type=simple
# vxdg adddisk c0t0d0s4
# vxdctl enable
[Update the disk ID:]
# scdidadm -R /dev/rdsk/c0t0d0
[Press CTRL-d to resume in multiuser mode]
```

▼ How to Restore an Encapsulated root (/) File System (VERITAS Volume Manager)

Use this procedure to restore an encapsulated root (/) file system to a node. The node being restored should not be booted. Be sure the cluster is running problem-free before performing the restore procedure.

Note - Since you must partition the new disk using the same format as the failed disk, identify the partitioning scheme before you begin this procedure, and recreate file systems as appropriate.

---

1. **Replace the failed disk on the node where the root file system will be restored.**

   Refer to disk replacement procedures in the documentation that came with your server.

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release of specifications as primitives in its **data model**, and that the leeway offered by the
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2. **Boot the node being restored.**
   - If using the Solaris CD-ROM, run the following command:

   ```
   ok boot cdrom -s
   ```

   - If using a JumpStart server, run the following command:

   ```
   ok boot net -s
   ```

3. **Create all the partitions and swap on the root disk using the `format`(1M) command.**

   Recreate the original partitioning scheme that was on the failed disk.

4. **Create the root (/) file system and other file systems as appropriate, using the `newfs`(1M) command.**

   Recreate the original file systems that were on the failed disk.

Note - Be sure to create the `/global/.devices/node@nodeid` file system.

---

5. **Mount the root (/) file system on a temporary mount point.**

   ```
   # mount device temp-mount-point
   ```

6. **Restore the root (/) file system from backup.**

   ```
   # cd temp-mount-point
   # ufsrestore rvf dump-device
   # rm restoresymtable
   ```

7. **Create an empty `install-db` file.**

   This puts the node in VxVM install mode at the next reboot.

   ```
   # touch /temp-mount-point/etc/vx/reconfig.d/state.d/install-db
   ```

8. **Remove or comment out the following entries from the /*temp-mount-point*/`etc/system` file.**

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The situation becomes more difficult once **data replication** is taken into account, e.g.a sales
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```
* rootdev:/pseudo/vxio@0:0
* set vxio:vol_rootdev_is_volume=1
```

9. **Edit the /temp-mount-point/`etc/vfstab` file and replace all VxVM mount points with the standard disk devices for the root disk, such as `/dev/dsk/c0t0d0s0`.**

```
Example:
Change from---
/dev/vx/dsk/rootdg/rootvol /dev/md/rdsk/rootdg/rootvol /      ufs   1     no -

Change to---
/dev/dsk/c0t0d0s0 /dev/rdsk/c0t0d0s0  / ufs   1     no        -
```

10. **Unmount the temporary file system and check the file system.**

```
# cd /
# umount temp-mount-point
# fsck raw-disk-device
```

11. **Install the boot block on the new disk.**

```
# /usr/sbin/installboot /usr/platform/`uname -i`/lib/fs/ufs/bootblk raw-disk-device
```

12. **Reboot the node in single-user mode.**

```
# reboot -- "-s"
```

13. **Update the disk ID using `scdidadm`(1M).**

```
# scdidadm -R /dev/rdsk/c0t0d0
```

14. **Run `vxinstall`.**

```
# vxinstall
```

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7. **After applying the patch to all nodes, reboot the nodes into the cluster.**

   On each node, run the following command.

```
# reboot
```

8. **Verify that the patch works, and that the nodes and cluster are operating normally.**

7.2.0.1 Example—Applying a Rebooting Patch (Cluster)

The following example shows the application of a rebooting Sun Cluster patch to a cluster.

```
# scshutdown -g 0 -y
...
ok boot -s
...
# patchadd 10-34567
(Apply patch to other cluster nodes)
...
# showrev -p | grep 10-34567
# reboot
```

7.2.0.2 Where to Go From Here

If you need to back out a patch, see "How to Remove a Sun Cluster Patch" on page 132.

▼ How to Apply a Non-Rebooting Sun Cluster Patch

Apply the patch to one node in the cluster at a time. When applying a non-rebooting patch, you do not need to first shut down the node receiving the patch.

1. **Before applying the patch, check the Sun Cluster product web page for any special pre- or post-installation instructions.**

2. **Apply the patch on a single node.**

```
# patchadd patch-dir patch-id
```

patch-dir	Specifies the directory location of the patch.
patch-id	Specifies the patch number of a given patch.

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... and Web communications with customers HOW THEY DID IT: Built its call center on IP-based technologies Built a reliable and secure voice and **data** network that ...

3. **Verify that the patch has been installed successfully.**

```
# showrev -p | grep patch-id
```

4. **Verify that the patch works, and that the node and cluster are operating normally.**

5. **Repeat Step 2 on page 131 through Step 4 on page 132 for the remaining cluster nodes.**

7.2.0.1 Example—Applying a Non-Rebooting Sun Cluster Patch

```
# patchadd 10-34567
...
# showrev -p | grep 10-34567
```

7.2.0.2 Where to Go From Here

If you need to back out a patch, see "How to Remove a Sun Cluster Patch" on page 132.

▼ How to Remove a Sun Cluster Patch

If necessary, you can back out (remove) a Sun Cluster patch.

1. **Become superuser on the node from which you are removing the patch.**

2. **List the resource groups and device groups on the node having the patch removed.**

```
# scrgadm -pv
# scstat
```

3. **Switch all resource groups, resources, and device groups from the node having the patch removed to other cluster members.**

```
# scswitch -S -h node
```

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... to prevent excessive downtime and enable **non-destructive** growth ... Figure 4. The Sun solution provides a complete **data** management **model**, including vital ...
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... to prevent excessive downtime and enable **non-destructive** growth. ... 3-1. The Sun solution provides a complete **data** management **model**, including vital ...
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... 6. Includes **model** notes. 7. Provides triggers. ... 1. Supports the following CALS **data** types: ... 5. Provides **non-destructive** translation from non-CALS formats. ...
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... in Cleveland specializing in Holographic **Nondestructive** Testing, and Dr ... as the preferred **model** for numerically ... NSI Double-Take(R) **data replication** software to ...
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File Format: PDF/Adobe Acrobat - View as HTML
... the requirements, and • looks at the resulting technology architecture **model**. ...

`-h` *node* — Specifies the node to switch resource and devices groups to.

`-S` — Evacuates all device services and resource groups from the specified node.

4. **Shut down the node.**

```
# shutdown [-y] [-g grace-period] [''message'']
```

`-y` — Specifies to answer *yes* to the confirmation prompt.

`-g` *grace-period* — Specifies, in seconds, the amount of time to wait before shutting down. Default grace period is 60 seconds.

message — Specifies the warning message to broadcast. Use quotes if *message* contains multiple words.

5. **Boot the node in non-cluster mode.**

```
ok boot -x
```

6. **Remove the patch.**

```
# patchrm patch-id
```

patch-id — Specifies the patch number of a given patch.

7. **Reboot the node.**

```
# reboot
```

8. **Verify that the patch has been removed successfully.**

```
# showrev -p | grep patch-id
```

9. **Verify that the node and cluster are operating normally.**

10. **Switch back all resource groups, resources, and device groups.**

```
# scswitch -S -h node
```

discusses directory service categories and application **data** access patterns. ...
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... in situ strength assessment; **non- destructive** testing; cracks ... with MOS and CMOS: **data** and control ... Introduction to high-performance **model** computers; pipelining ...
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The T Spaces Vision
... As Linda evolved, a **non-destructive** read primitive was added (see [GB82]), and the concept of ... [Codd70], EF Codd, A Relational **Model** of **Data** for Large Shared ...
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... storelist.The most straightforward implementation of **nondestructive** copying is ... the de-tails of their processor memory consistency **model**. ... to transactional **data**. ...
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... Using the synchronous **model**, clients in this mode are expected to execute ... client failures (ie, partial-writes of erasure-coded **data** are **non-destructive**). ...
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[PDF] Mike Bohn

11. **Repeat Step 1 on page 132 through Step 10 on page 133 for the remaining cluster nodes.**

7.2.0.1 Example—Removing a Sun Cluster Patch

The following example shows the removal of a Sun Cluster patch.

```
# scrgadm -pv
...
RG Name: schost-sa-1
...
# scstat
...
Device Group Name:                    dg-schost-1
...
# scswitch -S -h phys-schost-2
# shutdown -y -g 5 "Rebooting down node for maintenance"
...
ok boot -x
...
# patchrm 10-34567
...
# reboot
...
# pkgchk -v 10-34567
...
# scswitch -S -h phys-schost-1
```

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... WLIS (core node) would house parent databases, stage **data replication** to distributive ... walk functions between non-standard **data** and a standard WLIS **data model**. ...
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... hoc, test **data** from the field would be passed to system identification modules in the simulation environment. These modules would calculate **model** parameters in ...
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... Examples include solid state **data** recorders, digital signal processors, massively parallel processors, artificial neural networks, imaging processing, and ...
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CHAPTER **8**

Backing Up and Restoring a Cluster

This is a list of step-by-step instructions in this chapter.

8.1 Backing Up Cluster Files

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... aim of the backcalculation process from **Nondestructive** Testing (NDT ... from the measured field **data** through appropriate ... work, GA was used to **model** the deflection ...

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TABLE 8–1 Task Map: Backing Up Cluster Files

Task	For Instructions, Go To...
Find the names of the file systems you want to back up.	"How to Find File System Names to Back Up" on page 136
Calculate how many tapes you will need to contain a full backup.	"How to Determine the Number of Tapes Needed for a Full Backup" on page 137
Back up the root file system.	"How to Back Up the root (/) File System" on page 137
Perform online backup for mirrored or plexed file systems.	"How to Perform Online Backups for Mirrors (Solstice DiskSuite)" on page 139
	"How to Perform Online Backups for Volumes (VERITAS Volume Manager)" on page 142

▼ How to Find File System Names to Back Up

Use this procedure to determine the names of the file systems you want to back up.

1. **Display the contents of the `/etc/vfstab` file.**

   You do not need to be superuser to run this command.

```
% more /etc/vfstab
```

2. **Look in the mount point column for the name of the file system you want to back up.**

   Use this name when you back up the file system.

```
% more /etc/vfstab
```

8.1.0.1 Example—Finding File System Names to Back Up

In the following example, the names of available file systems listed in the `/etc/vfstab` file are displayed.

Terms used
data replication upon a non destructive data model

Found **8** of **134,837**

Sort results by: relevance
Display results: expanded form

Save results to a Binder
Search Tips
Open results in a new window

Try an Advanced Search
Try this search in The ACM Guide

Results 1 - 8 of 8

Relevance scale

1 Data modeling of time-based media
Simon Gibbs, Christian Breiteneder, Dennis Tsichritzis
May 1994 **ACM SIGMOD Record , Proceedings of the 1994 ACM SIGMOD international conference on Management of data**, Volume 23 Issue 2
Full text available: pdf(1.32 MB) Additional Information: full citation, abstract, references, citings, index terms

Many aspects of time-based media—complex data encoding, compression, "quality factors," timing—appear problematic from a data modeling standpoint. This paper proposes timed streams as the basic abstraction for modeling time-based media. Several media-independent structuring mechanisms are introduced and a data model is presented which, rather than leaving the interpretation of multimedia data to applications, addresses the complex organization and re ...

2 The design of a RISC based multiprocessor chip
Rajiv Gupta, Michael Epstein, Michael Whelan
November 1990 **Proceedings of the 1990 ACM/IEEE conference on Supercomputing**
Full text available: pdf(1.10 MB) Additional Information: full citation, abstract, references

This paper describes the architecture of a RISC based multiprocessor chip. The processors operate in a MIMD fashion executing parallel instruction streams generated by a parallelizing compiler for the exploitation of fine-grained parallelism. Low cost synchronization mechanisms are supported in hardware. The resulting system is tolerant of unpredicatable delays in the progress of individual streams. Instruction level parallelism is exploited through the use of register channels and a mechanism f ...

Keywords: collective branching, fuzzy barrier, parallelizing compiler, register channels, very long instruction word (VLIW) architectures

3 A user-centred approach to functions in excel
Simon Peyton Jones, Alan Blackwell, Margaret Burnett
August 2003 **ACM SIGPLAN Notices , Proceedings of the eighth ACM SIGPLAN international conference on Functional programming**, Volume 38 Issue 9
Full text available: pdf(210.80 KB) Additional Information: full citation, abstract, references, index terms

We describe extensions to the Excel spreadsheet that integrate user-defined functions into the spreadsheet grid, rather than treating them as a "bolt-on". Our first objective was to bring the benefits of additional programming language features to a system that is often not recognised as a programming language. Second, in a project involving the evolution of a well-established language, compatibility with previous versions is a major issue, and maintaining this compatibility was our second objec ...

```
% more /etc/vfstab
#device            device             mount  FS fsck  mount  mount
#to mount          to fsck            point  type     pass   at boot  options
#
#/dev/dsk/c1d0s2   /dev/rdsk/c1d0s2   /usr    ufs     1       yes     -
 f                 -                  /dev/fd fd      -       no      -
 /proc             -                  /proc   proc    -       no      -
 /dev/dsk/c1t6d0s1 -                  -       swap    -       no      -
 /dev/dsk/c1t6d0s0 /dev/rdsk/c1t6d0s0 /       ufs     1       no      -
 /dev/dsk/c1t6d0s3 /dev/rdsk/c1t6d0s3 /cache  ufs     2       yes     -
 swap              -                  /tmp    tmpfs   -       yes     -
```

▼ How to Determine the Number of Tapes Needed for a Full Backup

Use this procedure to calculate the number of tapes you will need to back up a file system.

1. **Become superuser on the cluster node you want to back up.**

2. **Estimate the size of the backup in bytes.**

```
# ufsdump S filesystem
```

S — Displays the estimated number of bytes needed to perform the backup.

filesystem — Specifies the name of the file system you want to back up.

3. **Divide the estimated size by the capacity of the tape to see how many tapes you need.**

8.1.0.1 Example—Determining the Number of Tapes Needed

In the following example, the file system size of 905,881,620 bytes will easily fit on a 4 GB tape (905,881,620 ÷ 4,000,000,000).

```
# ufsdump S /global/phys-schost-1
905881620
```

▼ How to Back Up the root (/) File System

Use this procedure to back up the root (/) file system of a cluster node. Be sure the cluster is running problem-free before performing the backup procedure.

4 ARMISTICE: an experience developing management software with Erlang
David Cabrero, Carlos Abalde, Carlos Varela, Laura Castro
August 2003 **Proceedings of the 2003 ACM SIGPLAN workshop on Erlang**
Full text available: pdf(362.35 KB) Additional Information: full citation, abstract, references

In this paper, some experiences of using the concurrent functional language Erlang to implement a classical vertical application, a risk management information system, are presented. Due to the complex nature of the business logic and the interactions involved in the client/server architecture deployed, traditional development techniques are unsatisfactory. First, the nature of the problem suggests an iterative design approach. The use of abstractions (functional patterns) and compositionality (...

Keywords: business logic, client/server architecture, concurrent programming, design patterns, distributed computing, functional programming

5 Media transports and distributed multimedia flows
Mark Baugher
March 1992 **Proceedings of the 1992 ACM/SIGAPP symposium on Applied computing: technological challenges of the 1990's**
Full text available: pdf(1.55 MB) Additional Information: full citation, references, citings, index terms

6 Construction of a fault-tolerant distributed tuple-space
Lewis I. Patterson, Richard S. Turner, Robert M. Hyatt
March 1993 **Proceedings of the 1993 ACM/SIGAPP symposium on Applied computing: states of the art and practice**
Full text available: pdf(634.56 KB) Additional Information: full citation, references, citings, index terms

Keywords: associative memory, fault-tolerance, shared memory

7 Virtual nodes/distributed systems working group
Anthony Gargaro
May 1989 **ACM SIGAda Ada Letters , Proceedings of the third international workshop on Real-time Ada issues**, Volume X Issue 4
Full text available: pdf(1.05 MB) Additional Information: full citation, citings, index terms

8 The gods must be crazy: a matter of time in collaborative systems
Du Li, Limin Zhou, Richard Muntz
December 1999 **ACM SIGGROUP Bulletin**, Volume 20 Issue 3
Full text available: pdf(585.96 KB) Additional Information: full citation, abstract, references

The concept of time in traditional distributed systems has been inherited in the Computer-Supported Collaborative Work (CSCW) literature. The following assumptions have generally been made: (1) Events are atomic and their durations do not matter. (2) Total ordering of events can be achieved by some mechanical algorithm. (3) The relationship between events is determined solely by time (causal relationship). However, we observe that these assumptions are not appropriate if the goal is to faithfull ...

Results 1 - 8 of 8

1. **Become superuser on the cluster node you want to back up.**

2. **Switch each running data service from the node to be backed up to another node in the cluster.**

```
# scswitch -z -D disk-device-group -h node
```

`-z`	Performs the switch.
`-D` *disk-device-group*	Name of the disk device group, which is the same as the diskset or disk group name.
`-h` *node*	Name of the cluster node which serves as the primary of the disk device group.

3. **Stop the node.**

```
# shutdown -g0 -y
```

4. **At the `ok` prompt, reboot in non-cluster mode.**

```
ok boot -x
```

5. **Back up the root (/) file system.**
   - If the root disk is not encapsulated, use the following command.

```
# ufsdump 0ucf dump-device /
```

   - If the root disk is encapsulated, use the following command.

```
# ufsdump 0ucf dump-device /dev/vx/rdsk/rootvol
```

   Refer to the `ufsdump`(1M) man page for more information.

6. **Reboot the node in cluster mode.**

```
# init 6
```

8.1.0.1 Example—Backing Up the root (/) File System

In the following example, the root (/) file system is backed up onto tape device `/dev/rmt/0`.

```
# ufsdump 0ucf /dev/rmt/0 /
  DUMP: Writing 63 Kilobyte records
  DUMP: Date of this level 0 dump: Tue Apr 18 18:06:15 2000
  DUMP: Date of last level 0 dump: the epoch
  DUMP: Dumping /dev/rdsk/c0t0d0s0 (phys-schost-1:/) to /dev/rmt/0
  DUMP: Mapping (Pass I) [regular files]
  DUMP: Mapping (Pass II) [directories]
  DUMP: Estimated 859086 blocks (419.48MB).
  DUMP: Dumping (Pass III) [directories]
  DUMP: Dumping (Pass IV) [regular files]
  DUMP: 859066 blocks (419.47MB) on 1 volume at 2495 KB/sec
  DUMP: DUMP IS DONE
  DUMP: Level 0 dump on Tue Apr 18 18:06:15 2000
```

How to Perform Online Backups for Mirrors (Solstice DiskSuite)

A mirrored metadevice can be backed up without unmounting it or taking the entire mirror offline. One of the submirrors must be taken offline temporarily, thus losing mirroring, but it can be placed online and resynced as soon as the backup is complete, without halting the system or denying user access to the data. Using mirrors to perform online backups creates a backup that is a "snapshot" of an active file system.

A problem might occur if a program writes data onto the volume immediately before the `lockfs` command is run. To prevent this problem, temporarily stop all the services running on this node. Also, be sure the cluster is running problem-free before performing the backup procedure.

1. **Become superuser on the cluster node you want to back up.**

2. **Use the `metaset`(1M) command to determine which node has the ownership on the backed up volume.**

```
# metaset -s setname
```

`-s` ***setname*** Specifies the diskset name.

3. **Use the `lockfs`(1M) command with the `-w` option to lock the file system from writes.**

```
# lockfs -w mount-point
```

A user-centred approach to functions in excel

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Proceedings of the eighth ACM SIGPLAN international conference on Functional programming table of contents
Uppsala, Sweden
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ABSTRACT

We describe extensions to the Excel spreadsheet that integrate user-defined functions into the spreadsheet grid, rather than treating them as a "bolt-on". Our first objective was to bring the benefits of additional programming language features to a system that is often not recognised as a programming language. Second, in a project involving the evolution of a well-established language, compatibility with previous versions is a major issue, and maintaining this compatibility was our second objective. Third and most important, the commercial success of spreadsheets is largely due to the fact that many people find them more usable than programming languages for programming-like tasks. Thus, our third objective (with resulting constraints) was to maintain this usability advantage.Simply making Excel more like a conventional programming language would not meet these objectives and constraints. We have therefore taken an approach to our design work that emphasises the cognitive requirements of the user as a primary design criterion. The analytic approach that we demonstrate in this project is based on recent developments in the study of programming usability, including the Cognitive Dimensions of Notations and the Attention Investment model of abstraction use. We believe that this approach is also applicable to the design and extension of other programming languages and environments.

REFERENCES

Note: OCR errors may be found in this Reference List extracted from the full text article. ACM has opted to expose the complete List rather than only correct and linked references.

Note - You must lock the file system only if a UFS file system resides on the mirror. For example, if the metadevice is set up as a raw device for database management software or some other specific application, it would not be necessary to use the `lockfs` command. You may, however, want to run the appropriate vender-dependent utility to flush any buffers and lock access.

4. **Use the `metastat`(1M) command to determine the names of the submirrors.**

```
# metastat -s setname -p
```

`-p`	Displays the status in a format similar to the `md.tab` file.

5. **Use the `metadetach`(1M) command to take one submirror offline from the mirror.**

```
# metadetach -s setname mirror submirror
```

Note - Reads will continue to be made from the other submirrors. However, the offline submirror will be out of sync as soon as the first write is made to the mirror. This inconsistency is corrected when the offline submirror is brought back online. You don't need to run `fsck`.

6. **Unlock the file systems and allow writes to continue, using the `lockfs` command with the `-u` option.**

```
# lockfs -u mount-point
```

7. **Perform a file system check.**

```
# fsck /dev/md/diskset/rdsk/submirror
```

8. **Back up the offline submirror to tape or another medium.**

   Use the `ufsdump`(1M) command or whatever other backup utility you normally use.

Note - Use the raw device (`/rdsk`) name for the submirror, rather than the block device (`/dsk`) name.

1 A Ambler. Forms: Expanding the visualness of sheet languages. In Workshop on Visual Languages, Linkoping, Sweden, August 1987.

2 M Burnett and A Ambler. Interactive visual data abstraction in a declarative visual programming language. Journal of Visual Languages and Computing, 5:29--60, March 1994.

3 Barry W. Boehm , Clark , Horowitz , Brown , Reifer , Chulani , Ray Madachy , Bert Steece, Software Cost Estimation with Cocomo II with Cdrom, Prentice Hall PTR, Upper Saddle River, NJ, 2000

4 Margaret Burnett, John Atwood, Rebecca Walpole Djang, Herkimer Gottfried, James Reichwein, and Sherry Yang. Forms/3: A first-order visual language to explore the boundaries of the spreadsheet paradigm. Journal of Functional Programming, 11:155--206, March 2001.

5 Alan Blackwell , Margaret Burnett, Applying Attention Investment to End-User Programming, Proceedings of the IEEE 2002 Symposia on Human Centric Computing Languages and Environments (HCC'02), p.28, September 03-06, 2002

6 Laura Beckwith , Margaret Burnett , Curtis Cook, Reasoning about Many-to-Many Requirement Relationships in Spreadsheets, Proceedings of the IEEE 2002 Symposia on Human Centric Computing Languages and Environments (HCC'02), p.149, September 03-06, 2002

7 M Burnett, N Cao, M Arredondo-Castro, and J Atwood. End-user programming of time as an 'ordinary' dimension in grid-oriented visual programming languages. Journal of Visual Languages and Computing, 13(4):421--447, August 2002.

8 Polly S. Brown , John D. Gould, An experimental study of people creating spreadsheets, ACM Transactions on Information Systems (TOIS), v.5 n.3, p.258-272, July 1987

9 AF Blackwell and TRG Green. Notational systems -- the cognitive dimensions of notations framework. In JM Carroll, editor, HCI Models, Theories, and Frameworks: Toward an Interdisciplinary Science. Morgan Kaufmann, 2003.

10 A Blackwell. See what you need: helping end users to build abstractions. Journal of Visual Languages and Computing, 5:475--499, October 2001.

11 Alan F. Blackwell, First Steps in Programming: A Rationale for Attention Investment Models, Proceedings of the IEEE 2002 Symposia on Human Centric Computing Languages and Environments (HCC'02), p.2, September 03-06, 2002

12 Ed Huai-hsin Chi , John Riedl , Phillip Barry , Joseph Konstan, Principles for Information Visualization Spreadsheets, IEEE Computer Graphics and Applications, v.18 n.4, p.30-38, July 1998

13 Cynthia L. Corritore , Susan Wiedenbeck, Direction and Scope of Comprehension-Related Activities by Procedural and Object-Oriented Programmers: An Empirical Study, Proceedings of the 8th International Workshop on Program Comprehension, p.139, June 10-11, 2000

14 J. Steve Davis, Tools for spreadsheet auditing, International Journal of Human-Computer Studies, v.45 n.4, p.429-442, Oct. 1996

15 Joseph Dumas , Paige Parsons, Discovering the way programmers think about new programming environments, Communications of the ACM, v.38 n.6, p.45-56, June 1995

16 Robert Bruce Findler , Cormac Flanagan , Matthew Flatt , Shriram Krishnamurthi , Matthias Felleisen, DrScheme: A Pedagogic Programming Environment for Scheme, Proceedings of the9th International Symposium on Programming Languages: Implementations, Logics, and Programs: Including a Special Trach on Declarative Programming Languages in Education, p.369-388, September 03-05, 1997

```
# ufsdump 0ucf dump-device submirror
```

9. **Use the `metattach(1M)` command to place the metadevice back online.**

```
# metattach -s setname mirror submirror
```

When the metadevice is placed online, it is automatically resynced with the mirror.

10. **Use the `metastat` command to verify that the submirror is resyncing.**

```
# metastat -s setname mirror
```

8.1.0.1 Example—Performing Online Backups for Mirrors (Solstice DiskSuite)

In the following example, the cluster node `phys-schost-1` is the owner of the metaset `schost-1`, therefore the backup procedure is performed from `phys-schost-1`. The mirror `/dev/md/schost-1/dsk/d0` consists of the submirrors `d10`, `d20`, and `d30`.

```
[Determine the owner of the metaset:]
# metaset -s schost-1
Set name = schost-1, Set number = 1
Host                Owner
  phys-schost-1     Yes
...
[Lock the file system from writes:]
# lockfs -w /global/schost-1
[List the submirrors:]
# metastat -s schost-1 -p
schost-1/d0 -m schost-1/d10 schost-1/d20 schost-1/d30 1
schost-1/d10 1 1 d4s0
schost-1/d20 1 1 d6s0
schost-1/d30 1 1 d8s0
[Take a submirror offline:]
# metadetach -s schost-1 d0 d30
[Unlock the file system:]
# lockfs -u /
[Check the file system:]
# fsck /dev/md/schost-1/rdsk/d30
[Copy the submirror to the backup device:]
# ufsdump 0ucf /dev/rmt/0 /dev/md/schost-1/rdsk/d30
  DUMP: Writing 63 Kilobyte records
  DUMP: Date of this level 0 dump: Tue Apr 25 16:15:51 2000
  DUMP: Date of last level 0 dump: the epoch
  DUMP: Dumping /dev/md/schost-1/rdsk/d30 to /dev/rdsk/c1t9d0s0.
  ...
  DUMP: DUMP IS DONE
```

(continued)

17 TRG Green and M Petre. Usability analysis of visual programming environments: a "cognitive dimensions" framework. Journal of Visual Languages and Computing, 7:131--174, 1996.

18 T. Green, M. Petre, and R. Bellamy. Comprehensibility of visual and textual programs: A test of su-perlativism against the 'match-mismatch' conjecture. In Empirical Studies of Programmers: Fourth Workshop, New Brunswick, New Jersey, pages 121--146. Ablex, December 1991.

19 IEEE Conference on Human-Centric Computing Languages and Environments, Arlington. IEEE Computer Society, September 2002.

20 Christopher M. Hoadley, Marcia C. Linn, Lydia M. Mann, and Michael J. Clancy. When, why and how do novice programmers reuse code? In Empirical Studies of Programmers: Sixth Workshop. Ablex, 1996.

21 C Hughes and J Moshell. Action Graphics: A spreadsheet-based language for animated simulation. In T Ichikawa, E Jungert, and R Korfhage, editors, Visual Languages and Applications, pages 203--235. Plenum Publishing, 1990.

22 Cordelia V. Hall , John T. O'Donnell, Debugging in a side effect free programming environment, Proceedings of the ACM SIGPLAN 85 symposium on Language issues in programming environments, p.60-68, June 25-28, 1985, Seattle, Washington, United States

23 Scott E. Hudson, User interface specification using an enhanced spreadsheet model, ACM Transactions on Graphics (TOG), v.13 n.3, p.209-239, July 1994

24 Takeo Igarashi , Jock D. Mackinlay , Bay-Wei Chang , Polle T. Zellweger, Fluid Visualization of Spreadsheet Structures, Proceedings of the IEEE Symposium on Visual Languages, p.118, September 01-04, 1998

25 M Levoy. Spreadsheet for images. Computer Graphics, 28:139--146, 1994.

26 Yongqiang Li , John Grundy , Robert Amor , John Hosking, A Data Mapping Specification Environment Using a Concrete Business Form-Based Metaphor, Proceedings of the IEEE 2002 Symposia on Human Centric Computing Languages and Environments (HCC'02), p.158, September 03-06, 2002

27 Henry Lieberman, Steps toward better debugging tools for LISP, Proceedings of the 1984 ACM Symposium on LISP and functional programming, p.247-255, August 06-08, 1984, Austin, Texas, United States

28 Brad A. Myers, Graphical techniques in a spreadsheet for specifying user interfaces, Proceedings of the SIGCHI conference on Human factors in computing systems: Reaching through technology, p.243-249, April 27-May 02, 1991, New Orleans, Louisiana, United States

29 Bonnie A. Nardi, A small matter of programming: perspectives on end user computing, MIT Press, Cambridge, MA, 1993

30 A Newell and SK Card. The prospects for psychological science in human-computer interaction. Human-Computer Interaction, 1:209--242, 1985.

31 Henrik Nilsson. Declarative Debugging for Lazy Functional Languages. PhD thesis, Department of Computer and Information Science, Link鎓ings universitet, S-581 83, Link鎓ing, Sweden, May 1998.

32 Jakob Nielsen , Rolf Molich, Heuristic evaluation of user interfaces, Proceedings of the SIGCHI conference on Human factors in computing systems: Empowering people, p.249-256, April 01-05, 1990, Seattle, Washington, United States

33 Raymond R. Panko, What we know about spreadsheet errors, Journal of End User Computing,

(Continuation)

```
[Bring the submirror back online:]
# metattach -s schost-1 d0 d30
schost-1/d0: submirror schost-1/d30 is attached
[Resync the submirror:]
# metastat -s schost-1 d0
schost-1/d0: Mirror
    Submirror 0: schost-0/d10
      State: Okay
    Submirror 1: schost-0/d20
      State: Okay
    Submirror 2: schost-0/d30
      State: Resyncing
    Resync in progress: 42 % done
    Pass: 1
    Read option: roundrobin (default)
...
```

▼ How to Perform Online Backups for Volumes (VERITAS Volume Manager)

VERITAS Volume Manager identifies a mirrored volume as a plex. A plex can be backed up without unmounting it or taking the entire volume offline. This is done by creating a snapshot copy of the volume and backing up this temporary volume without halting the system or denying user access to the data.

Be sure the cluster is running problem-free before performing the backup procedure.

1. **Log on to any node in the cluster, and become superuser on the current primary node for the disk group on the cluster.**

2. **List the disk group information.**

```
# vxprint -g diskgroup
```

3. **Run** `scstat`**(1M) to see which node has the disk group currently imported, indicating it is the primary node for the disk group.**

```
# scstat -D
```

`-D` Shows the status for all disk device groups.

4. **Create a snapshot of the volume using the** `vxassist`**(1M) command.**

v.10 n.2, p.15-21, Spring 1998

34 International Symposium on Programming Languages Implementations, Logics, and Programs (PLILP'97), volume 1292 of Lecture Notes in Computer Science. Springer Verlag, September 1997.

35 JF Pane and BA Myers. Usability issues in the design of novice programming systems. Technical Report CMU-CS-96-132, Carnegie Mellon University, School of Computer Science, August 1996.

36 John F. Pane , Brad A. Myers , Leah B. Miller, Using HCI Techniques to Design a More Usable Programming System, Proceedings of the IEEE 2002 Symposia on Human Centric Computing Languages and Environments (HCC'02), p.198, September 03-06, 2002

37 Gregg Rothermel , Lixin Li , Christopher DuPuis , Margaret Burnett, What you see is what you test: a methodology for testing form-based visual programs, Proceedings of the 20th international conference on Software engineering, p.198-207, April 19-25, 1998, Kyoto, Japan

38 Trevor J. Smedley , Philip T. Cox , Shannon L. Byrne, Expanding the utility of spreadsheets through the integration of visual programming and user interface objects, Proceedings of the workshop on Advanced visual interfaces, May 27-29, 1996, Gubbio, Italy

39 Jan Sparud , Colin Runciman, Tracing Lazy Functional Computations Using Redex Trails, Proceedings of the9th International Symposium on Programming Languages: Implementations, Logics, and Programs: Including a Special Trach on Declarative Programming Languages in Education, p.291-308, September 03-05, 1997

40 Andrew P. Tolmach , Andrew W. Appel, Debugging standard ML without reverse engineering, Proceedings of the 1990 ACM conference on LISP and functional programming, p.1-12, June 27-29, 1990, Nice, France

41 David Ungar , Randall B. Smith, Self: The power of simplicity, Conference proceedings on Object-oriented programming systems, languages and applications, p.227-242, October 04-08, 1987, Orlando, Florida, United States

42 S. Yang, M. Burnett, E. DeKoven, and M. Zloof. Representation design benchmarks: a design-time aid for VPL navigable static representations. Journal of Visual Languages and Computing, 8 (5/6):563--599, Oct/Dec 1997.

↑ INDEX TERMS

Primary Classification:

D. Software
↪ **D.3** PROGRAMMING LANGUAGES
↪ **D.3.2** Language Classifications
↪ **Subjects:** Applicative (functional) languages

Additional Classification:

D. Software
↪ **D.3** PROGRAMMING LANGUAGES
↪ **D.3.3** Language Constructs and Features
↪ **Subjects:** Procedures, functions, and subroutines

H. Information Systems
↪ **H.1** MODELS AND PRINCIPLES
↪ **H.1.2** User/Machine Systems

```
# vxassist -g diskgroup snapstart volume
```

Note - Creating a snapshot can take a long time depending on the size of your volume.

---

5. **Verify the new volume was created using the `vxprint`(1M) command.**

```
# vxprint -g diskgroup
```

When the snapshot is complete, a status of `Snapdone` displays in the `State` field for the selected disk group.

6. **Stop any data services that are accessing the file system using `scswitch`(1M).**

```
# scswitch -z -g nfs-rg -h ''''
```

Note - Stopping data services is recommended to ensure that the data file system is properly backed up. If no data services are running, you do not need to perform Step 6 on page 143 and Step 8 on page 143.

---

7. **Create a backup volume named `bkup-vol` and attach the snapshot volume to it using the `vxassist` command.**

```
# vxassist -g diskgroup snapshot volume bkup-vol
```

8. **Restart any data services that were stopped in Step 6 on page 143, using the `scswitch` command.**

```
# scswitch -z -g nfs-rg -h nodename
```

9. **Verify the volume is now attached to the new volume `bkup-vol` using the `vxprint` command.**

```
# vxprint -g diskgroup
```

10. **Register the disk group configuration change using the `scconf`(1M) command.**

General Terms:
Design, Languages

Collaborative Colleagues:

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Simon Peyton Jones: A. Michael Berman, Alan Blackwell, Geoffrey Burn, Margaret Burnett, Jean-Marc Eber, Robert Ennals, Sigbjorn Finne, Chris Hankin, Fergus Henderson, Tony Hoare, Richard Jones, Ralf Lämmel, Daan Leijen, Simon Marlow, Erik Meijer, Andrew Moran, Norman Ramsey, Alastair Reid, John Reppy, Julian Seward, Tim Sheard, Mads Tofte, Phil Wadler, Mitchell Wand, Keith Wansbrough

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```
# scconf -c -D name=diskgroup,sync
```

11. Check the backup volume using the `fsck` command.

```
# fsck -y /dev/vx/rdsk/diskgroup/bkup-vol
```

12. Perform a backup to copy the volume `bkup-vol` to tape or another medium.

Use the `ufsdump`(1M) command or the backup utility you normally use.

```
# ufsdump 0ucf dump-device /dev/vx/dsk/diskgroup/bkup-vol
```

13. Remove the temporary volume using `vxedit`(1M).

```
# vxedit -rf rm bkup-vol
```

14. Register the disk group configuration changes using the `scconf` command.

```
# scconf -c -D name=disk-group,sync
```

8.1.0.1 Example—Performing Online Backups for Volumes (VERITAS Volume Manager)

In the following example, the cluster node `phys-schost-2` is the primary owner of the metaset disk group `schost-1`, therefore the backup procedure is performed from `phys-schost-2`. The volume `/vo101` is copied and then associated with a new volume, `bkup-vol`.

```
[Become superuser on the primary node.]
[Identify the current primary node for the disk group:]
# scstat -D
-- Device Group Servers --
                         Device Group     Primary          Secondary
                         ------------     -------          ---------
 Device group servers:   rmt/1            -                -
 Device group servers:   schost-1         phys-schost-2    phys-schost-1
-- Device Group Status --
                             Device Group        Status
                             ------------        ------
 Device group status:        rmt/1               Offline
 Device group status:        schost-1            Online
[List the disk group information:]
```

(continued)

Data Modeling of Time-Based Media

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Christian Breiteneder, Universitaet Wien

Dennis Tsichritzis, Université de Genève and GMD Bonn

ABSTRACT Many aspects of time-based media – complex data encoding, compression, "quality factors," timing – appear problematic from a data modeling standpoint. This paper proposes *timed streams* as the basic abstraction for modeling time-based media. Several media-independent structuring mechanisms are introduced and a data model is presented which, rather than leaving the interpretation of multimedia data to applications, addresses the complex organization and relationships present in multimedia.

1 INTRODUCTION

There is a qualitative difference between time-based media and the forms of data traditionally stored in database systems. Time-based media, including digital audio and digital video, music and animation, involve notions of data flow, timing, temporal composition and synchronization. These notions are foreign to conventional data models and, as a result, conventional data models are not well suited to multimedia database systems in general.

Multimedia requires a broad perspective, one accounting for both time-based media and other forms of data. This paper takes a step in this direction by proposing a data model for time-based media. Its main contributions are the development of a model, which encompasses many forms of time-based media found in practice, and the identification of three general structuring mechanisms for time-based media.

1.1 Prior Work

There has been considerable prior work on modeling multimedia data (e.g., [2][4][8][13][21][22]) and a number of these proposals have been implemented in the context of multimedia document systems [2][4] or as multimedia extensions to existing database systems [21][22].

Much of this earlier work has focussed on text and images, while time-based media have received less attention – perhaps because of their tremendous processing and storage demands (for example, one *second* of high quality digital video can occupy tens of Mbytes). Now, however, advances in compression technology and the continually decreasing costs of memory and processing cycles are making the use of time-based media viable. As a result there is a need for multimedia databases coming from two new directions. First, new multimedia applications such as video on-demand services and virtual environments stand to benefit from access to large databases of time-based material. Second, the vast "clip media" repositories now being assembled are often loosely organized collections of files and lack the power and flexibility of databases.

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1.2 From Blobs to Streams

Recent proposals for multimedia database systems have introduced a *BLOB* (binary large object) data type intended for images and other very large values (e.g., [3][7][16]). While the storage of very large values is necessary for multimedia databases, it is not sufficient. The database system should also have some understanding about the internal structure of BLOBs – it must be able to "interpret" the data. There are many reasons for this. First, if the database does not maintain this structural information then the task is left to applications. In other words, information about data structure is separated from the data itself – a situation database systems were explicitly designed to avoid. Second, the structural information needed to interpret time-based media is complex, if it is lost it may be extremely difficult or infeasible to reconstruct and one is left with meaningless data. Preserving this information is crucial and the task should not be left to applications. Third, knowing the structure of time-based media permits sophisticated querying. For example, consider a digital movie with audio tracks in different languages. If the movie is represented structurally, rather than as a long uninterpreted byte sequence, it is possible to issue queries which select a specific sound track, or select a specific duration, or perhaps retrieve frames at a specific visual fidelity. Fourth, presenting time-based media requires timing information. Using a BLOB data type it is possible to read and write time-based media but, since no timing information is available to the database system, the more relevant operations of "play" and "record" have no meaning. Finally, structural information is needed when updating time-based media. For example, editing systems for digital audio and digital video take great care to perform *non-destructive* modifications: rather than reading and writing vast amounts of data in order to accomplish a modification, references to structures within the data are manipulated. The

(Continuation)

```
# vxprint -g schost-1
TY NAME            ASSOC          KSTATE    LENGTH    PLOFFS   STATE     TUTIL0  PUTIL0
dg schost-1        schost-1   -         -         -        -         -       -

dm schost-101      c1t1d0s2   -         17678493 -        -         -       -
dm schost-102      c1t2d0s2   -         17678493 -        -         -       -
dm schost-103      c2t1d0s2   -         8378640  -        -         -       -
dm schost-104      c2t2d0s2   -         17678493 -        -         -       -
dm schost-105      c1t3d0s2   -         17678493 -        -         -       -
dm schost-106      c2t3d0s2   -         17678493 -        -         -       -

v  vol01           gen        ENABLED   204800   -        ACTIVE    -       -
pl vol01-01        vol01      ENABLED   208331   -        ACTIVE    -       -
sd schost-101-01   vol01-01   ENABLED   104139   0        -         -       -
sd schost-102-01   vol01-01   ENABLED   104139   0        -         -       -
pl vol01-02        vol01      ENABLED   208331   -        ACTIVE    -       -
sd schost-103-01   vol01-02   ENABLED   103680   0        -         -       -
sd schost-104-01   vol01-02   ENABLED   104139   0        -         -       -
pl vol01-03        vol01      ENABLED   LOGONLY  -        ACTIVE    -       -
sd schost-103-02   vol01-03   ENABLED   5        LOG      -         -       -
[Start the snapshot operation:]
# vxassist -g schost-1 snapstart vol01
[Verify the new volume was created:]
# vxprint -g schost-1
TY NAME            ASSOC          KSTATE    LENGTH    PLOFFS   STATE     TUTIL0  PUTIL0
dg schost-1        schost-1   -         -         -        -         -       -

dm schost-101      c1t1d0s2   -         17678493 -        -         -       -
dm schost-102      c1t2d0s2   -         17678493 -        -         -       -
dm schost-103      c2t1d0s2   -         8378640  -        -         -       -
dm schost-104      c2t2d0s2   -         17678493 -        -         -       -
dm schost-105      c1t3d0s2   -         17678493 -        -         -       -
dm schost-106      c2t3d0s2   -         17678493 -        -         -       -

v  vol01           gen        ENABLED   204800   -        ACTIVE    -       -
pl vol01-01        vol01      ENABLED   208331   -        ACTIVE    -       -
sd schost-101-01   vol01-01   ENABLED   104139   0        -         -       -
sd schost-102-01   vol01-01   ENABLED   104139   0        -         -       -
pl vol01-02        vol01      ENABLED   208331   -        ACTIVE    -       -
sd schost-103-01   vol01-02   ENABLED   103680   0        -         -       -
sd schost-104-01   vol01-02   ENABLED   104139   0        -         -       -
pl vol01-03        vol01      ENABLED   LOGONLY  -        ACTIVE    -       -
sd schost-103-02   vol01-03   ENABLED   5        LOG      -         -       -
pl vol01-04        vol01      ENABLED   208331   -        SNAPDONE  -       -
sd schost-105-01   vol01-04   ENABLED   104139   0        -         -       -
sd schost-106-01   vol01-04   ENABLED   104139   0        -         -       -
[Stop data services, if necessary:]
# scswitch -z -g nfs-rg -h ''''
[Create a copy of the volume:]
# vxassist -g schost-1 snapshot vol01 bkup-vol
[Restart data services, if necessary:]
# scswitch -z -g nfs-rg -h phys-schost-1
[Verify bkup-vol was created:]
# vxprint -g schost-1
```

(continued)

Terms used
data replication upon a non destructive data model

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May 1994 **ACM SIGMOD Record , Proceedings of the 1994 ACM SIGMOD international conference on Management of data**, Volume 23 Issue 2
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Many aspects of time-based media—complex data encoding, compression, "quality factors," timing—appear problematic from a data modeling standpoint. This paper proposes timed streams as the basic abstraction for modeling time-based media. Several media-independent structuring mechanisms are introduced and a data model is presented which, rather than leaving the interpretation of multimedia data to applications, addresses the complex organization and re ...

2 The design of a RISC based multiprocessor chip
Rajiv Gupta, Michael Epstein, Michael Whelan
November 1990 **Proceedings of the 1990 ACM/IEEE conference on Supercomputing**
Full text available: pdf(1.10 MB) Additional Information: full citation, abstract, references

This paper describes the architecture of a RISC based multiprocessor chip. The processors operate in a MIMD fashion executing parallel instruction streams generated by a parallelizing compiler for the exploitation of fine-grained parallelism. Low cost synchronization mechanisms are supported in hardware. The resulting system is tolerant of unpredicatable delays in the progress of individual streams. Instruction level parallelism is exploited through the use of register channels and a mechanism f ...

Keywords: collective branching, fuzzy barrier, parallelizing compiler, register channels, very long instruction word (VLIW) architectures

3 A user-centred approach to functions in excel
Simon Peyton Jones, Alan Blackwell, Margaret Burnett
August 2003 **ACM SIGPLAN Notices , Proceedings of the eighth ACM SIGPLAN international conference on Functional programming**, Volume 38 Issue 9
Full text available: pdf(210.80 KB) Additional Information: full citation, abstract, references, index terms

We describe extensions to the Excel spreadsheet that integrate user-defined functions into the spreadsheet grid, rather than treating them as a "bolt-on". Our first objective was to bring the benefits of additional programming language features to a system that is often not recognised as a programming language. Second, in a project involving the evolution of a well-established language, compatibility with previous versions is a major issue, and maintaining this compatibility was our second objec ...

(Continuation)

```
TY NAME            ASSOC        KSTATE   LENGTH   PLOFFS  STATE    TUTIL0 PUTIL0
dg schost-1        schost-1     -        -        -       -        -      -

dm schost-101      c1t1d0s2     -        17678493 -       -        -      -
dm schost-102      c1t2d0s2     -        17678493 -       -        -      -
dm schost-103      c2t1d0s2     -        8378640  -       -        -      -
dm schost-104      c2t2d0s2     -        17678493 -       -        -      -
dm schost-105      c1t3d0s2     -        17678493 -       -        -      -
dm schost-106      c2t3d0s2     -        17678493 -       -        -      -

v  bkup-vol        gen          ENABLED  204800   -       ACTIVE   -      -
pl bkup-vol-01     bkup-vol     ENABLED  208331   -       ACTIVE   -      -
sd schost-105-01   bkup-vol-01  ENABLED  104139   0       -        -      -
sd schost-106-01   bkup-vol-01  ENABLED  104139   0       -        -      -

v  vol01           gen          ENABLED  204800   -       ACTIVE   -      -
pl vol01-01        vol01        ENABLED  208331   -       ACTIVE   -      -
sd schost-101-01   vol01-01     ENABLED  104139   0       -        -      -
sd schost-102-01   vol01-01     ENABLED  104139   0       -        -      -
pl vol01-02        vol01        ENABLED  208331   -       ACTIVE   -      -
sd schost-103-01   vol01-02     ENABLED  103680   0       -        -      -
sd schost-104-01   vol01-02     ENABLED  104139   0       -        -      -
pl vol01-03        vol01        ENABLED  LOGONLY  -       ACTIVE   -      -
sd schost-103-02   vol01-03     ENABLED  5        LOG     -        -      -
[Synchronize the disk group with cluster framework:]
# scconf -c -D name=schost-1,sync
[Check the file systems:]
# fsck -y /dev/vx/rdsk/schost-1/bkup-vol
[Copy bkup-vol to the backup device:]
# ufsdump 0ucf /dev/rmt/0 /dev/vx/rdsk/schost-1/bkup-vol
  DUMP: Writing 63 Kilobyte records
  DUMP: Date of this level 0 dump: Tue Apr 25 16:15:51 2000
  DUMP: Date of last level 0 dump: the epoch
  DUMP: Dumping /dev/vx/dsk/schost-2/bkup-vol to /dev/rmt/0.
  ...
  DUMP: DUMP IS DONE
[Remove the bkup-volume:]
# vxedit -rf rm bkup-vol
[Synchronize the disk group:]
# scconf -c -D name=schost-1,sync
```

8.2 Restoring Cluster Files Overview

The `ufsrestore` command copies files to disk, relative to the current working directory, from backups created using the `ufsdump` command. You can use

4 ARMISTICE: an experience developing management software with Erlang
David Cabrero, Carlos Abalde, Carlos Varela, Laura Castro
August 2003 **Proceedings of the 2003 ACM SIGPLAN workshop on Erlang**
Full text available: pdf(362.35 KB) Additional Information: full citation, abstract, references

In this paper, some experiences of using the concurrent functional language Erlang to implement a classical vertical application, a risk management information system, are presented. Due to the complex nature of the business logic and the interactions involved in the client/server architecture deployed, traditional development techniques are unsatisfactory. First, the nature of the problem suggests an iterative design approach. The use of abstractions (functional patterns) and compositionality (...

Keywords: business logic, client/server architecture, concurrent programming, design patterns, distributed computing, functional programming

5 Media transports and distributed multimedia flows
Mark Baugher
March 1992 **Proceedings of the 1992 ACM/SIGAPP symposium on Applied computing: technological challenges of the 1990's**
Full text available: pdf(1.55 MB) Additional Information: full citation, references, citings, index terms

6 Construction of a fault-tolerant distributed tuple-space
Lewis I. Patterson, Richard S. Turner, Robert M. Hyatt
March 1993 **Proceedings of the 1993 ACM/SIGAPP symposium on Applied computing: states of the art and practice**
Full text available: pdf(634.56 KB) Additional Information: full citation, references, citings, index terms

Keywords: associative memory, fault-tolerance, shared memory

7 Virtual nodes/distributed systems working group
Anthony Gargaro
May 1989 **ACM SIGAda Ada Letters , Proceedings of the third international workshop on Real-time Ada issues**, Volume X Issue 4
Full text available: pdf(1.05 MB) Additional Information: full citation, citings, index terms

8 The gods must be crazy: a matter of time in collaborative systems
Du Li, Limin Zhou, Richard Muntz
December 1999 **ACM SIGGROUP Bulletin**, Volume 20 Issue 3
Full text available: pdf(585.96 KB) Additional Information: full citation, abstract, references

The concept of time in traditional distributed systems has been inherited in the Computer-Supported Collaborative Work (CSCW) literature. The following assumptions have generally been made: (1) Events are atomic and their durations do not matter. (2) Total ordering of events can be achieved by some mechanical algorithm. (3) The relationship between events is determined solely by time (causal relationship). However, we observe that these assumptions are not appropriate if the goal is to faithfull ...

Results 1 - 8 of 8

`ufsrestore` to reload an entire file system hierarchy from a level 0 dump and incremental dumps that follow it, or to restore one or more single files from any dump tape. If `ufsrestore` is run as superuser, files are restored with their original owner, last modification time, and mode (permissions).

Before you start to restore files or file systems, you need to know:

- which tapes you need
- the raw device name on which you want to restore the file system
- the type of tape drive you will use
- the device name (local or remote) for the tape drive
- the partition scheme of any failed disk, because the partitions and file systems must be exactly duplicated on the replacement disk

8.3 Restoring Cluster Files

TABLE 8–2 Task Map: Restoring Cluster Files

Task	For Instructions, Go To...
For Solstice DiskSuite, restore files interactively following Solaris restore procedures.	"How to Restore Individual Files Interactively (Solstice DiskSuite)" on page 148
For Solstice DiskSuite, restore the root (/) file system.	"How to Restore the root (/) File System (Solstice DiskSuite)" on page 148
	"How to Restore a root (/) File System That Was on a Metadevice (Solstice DiskSuite)" on page 151
For VERITAS Volume Manager, restore a non-encapsulated root (/) file system.	"How to Restore a Non-Encapsulated root (/) File System (VERITAS Volume Manager)" on page 156
For VERITAS Volume Manager, restore an encapsulated root (/) file system.	"How to Restore an Encapsulated root (/) File System (VERITAS Volume Manager)" on page 159

▼ How to Restore Individual Files Interactively (Solstice DiskSuite)

Use this procedure to restore one or more individual files. Be sure the cluster is running problem-free before performing the restore procedure.

1. **Become superuser on the cluster node you want to restore.**

2. **Stop all the data services that are using the files to be restored.**

```
# scswitch -z -g rgname -h ""
```

3. **Restore the files using the `ufsrestore` command.**

▼ How to Restore the root (/) File System (Solstice DiskSuite)

Use this procedure to restore the root (/) file systems to a new disk, such as after replacing a bad root disk. The node being restored should not be booted. Be sure the cluster is running problem-free before performing the restore procedure.

Note - Since you must partition the new disk using the same format as the failed disk, identify the partitioning scheme before you begin this procedure, and recreate file systems as appropriate.

---

1. **Become superuser on a cluster node *other than* the node you want to restore.**

2. **Remove the hostname of the node being restored from all metasets using the `metaset`(1M) command. Run this command from a node in the metaset other than the node you are removing.**

```
# metaset -s setname -f -d -h node
```

`-s` **setname**	Specifies the diskset name.
`-f`	Force.
`-d`	Deletes from the diskset.
`-h` ***node***	Specifies the name of the node to delete from the diskset.

3. **Replace the failed disk on the node on which the root (/) file system will be restored.**

The design of a RISC based multiprocessor chip

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Sponsors IEEE-CS\DATC : IEEE Computer Society
SIGARCH: ACM Special Interest Group on Computer Architecture

Publisher IEEE Computer Society Washington, DC, USA

ABSTRACT

This paper describes the architecture of a RISC based multiprocessor chip. The processors operate in a MIMD fashion executing parallel instruction streams generated by a parallelizing compiler for the exploitation of fine-grained parallelism. Low cost synchronization mechanisms are supported in hardware. The resulting system is tolerant of unpredicatable delays in the progress of individual streams. Instruction level parallelism is exploited through the use of register channels and a mechanism for the collective branching of processors. For efficient synchronization during parallel execution of loops, fuzzy barriers are provided. On chip memory is organized into multiple banks in order to provide sufficient bandwidth for the processors. The RISC processors are based upon the Sun SPARC architecture.

REFERENCES

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2 Robert P. Colwell , Robert P. Nix , John J. O'Donnell , David B. Papworth , Paul K. Rodman, A VLIW architecture for a trace Scheduling Compiler, IEEE Transactions on Computers, v.37 n.8, p.967-979, August 1988

3 R. Cytron, S. Karlovsky, and K. P. McAuliffe, "Automatic Management of Programmable Caches," Proc. of the International Conference on Parallel Processing, vol. II, pp. 229-238, August, 1988.

Refer to disk replacement procedures in the documentation that came with your server.

4. **Boot the node being restored.**
   - If using the Solaris CD-ROM, run the following command:

   ```
   ok boot cdrom -s
   ```

   - If using a JumpStart™ server, run the following command:

   ```
   ok boot net -s
   ```

5. **Create all the partitions and swap on the root disk using the `format`(1M) command.**

   Recreate the original partitioning scheme that was on the failed disk.

6. **Create the root (/) file system and other file systems as appropriate, using the `newfs`(1M) command.**

   Recreate the original file systems that were on the failed disk.

Note - Be sure to create the `/global/.devices/node@nodeid` file system.

---

7. **Mount the root (/) file system on a temporary mount point.**

   ```
   # mount device temp-mount-point
   ```

8. **Use the following commands to restore the root (/) file system.**

   ```
   # cd temp-mount-point
   # ufsrestore rvf dump-device
   # rm restoresymtable
   # cd /
   # umount temp-mount-point
   # fsck raw-disk-device
   ```

The file system is now restored.

9. **Install a new boot block on the new disk.**

4 John R. Ellis, Bulldog: a compiler for VLSI architectures, MIT Press, Cambridge, MA, 1986

5 Jeanne Ferrante , Karl J. Ottenstein , Joe D. Warren, The program dependence graph and its use in optimization, ACM Transactions on Programming Languages and Systems (TOPLAS), v.9 n.3, p.319-349, July 1987

6 J. A. Fisher, "Trace Scheduling: A Technique for Global Microcode Compaction," IEEE Trans. on Computers, vol. 7, no. C-30, pp. 478-490, July, 1981.

7 Rajiv Gupta, The fuzzy barrier: a mechanism for high speed synchronization of processors, Proceedings of the third international conference on Architectural support for programming languages and operating systems, p.54-63, April 03-06, 1989, Boston, Massachusetts, United States

8 R. Gupta, Employing register channels for the exploitation of instruction level parallelism, Proceedings of the second ACM SIGPLAN symposium on Principles & practice of parallel programming, p.118-127, March 14-16, 1990, Seattle, Washington, United States

9 Rajiv Gupta , Michael Epstein, Achieving Low Cost Synchronization in a Multiprocessor System, Proceedings of the Parallel Architectures and Languages Europe, Volume I: Parallel Architectures, p.70-84, June 12-16, 1989

10 R. Gupta and M. L. Soffa, "A Reconfigurable LIW Architecture," Proc. of the International Conf. on Parallel Processing, pp. 893-900, August, 1987.

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12 J. A. Solworth, "The Microflow Architecture," Proc. of the International Conference on Parallel Processing, vol. I, pp. 113-117, August, 1988.

13 Rajiv Gupta , Chi-Hung Chi, Improving instruction cache behavior by reducing cache pollution, Proceedings of the 1990 conference on Supercomputing, p.82-91, October 1990, New York, New York, United States

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↑ INDEX TERMS

Keywords:
collective branching, fuzzy barrier, parallelizing compiler, register channels, very long instruction word (VLIW) architectures

↑ Collaborative Colleagues:

Michael Epstein: Jon A. Baumgarten, Robert J. Butler, Allen R. Grogan, Rajiv Gupta, Ronald L. Johnston, Michael Whelan, Richard E. Wiley

Rajiv Gupta: Soner Önder, Santosh G. Abraham, David A. Berson, Shaji Bhaskar, Prabha Gopinath, Rajesh Gupta, Ido Hardonag, M. Jean Harrold, Richard I. Hartley, Brian Malloy, Eduard Mehofer, Rami Melhem, Rami G. Melhem, Tarun Nakra, Rajagopalan Srinivasan, Rabin A. Sugumar, Sriraman Tallam, Jodi Tims

```
# /usr/sbin/installboot /usr/platform/`uname -i`/lib/fs/ufs/bootblk raw-disk-device
```

10. **Reboot the node in single-user mode.**

```
# reboot -- "-s"
```

11. **Replace the disk ID using the `scdidadm` command.**

```
# scdidadm -R rootdisk
```

12. **Use the `metadb`(1M) command to recreate the state database replicas.**

```
# metadb -c copies -af raw-disk-device
```

`-c` **copies**	Specifies the number of replicas to create.
`-f` ***raw-disk-device***	Raw disk device on which to create replicas.
-a	Adds replicas.

13. **Reboot the node in cluster mode.**
    a. **Start the reboot.**

```
# reboot
```

During this boot you might see an error or warning message, ending with the following instruction:

```
Type control-d to proceed with normal startup,
(or give root password for system maintenance):
```

    b. **Press CTRL-d to boot into multiuser mode.**

14. **From a cluster node other than the restored node, use the `metaset`(1M) command to add the restored node to all metasets.**

```
phys-schost-2# metaset -s setname -a -h node
```

	Thomas Bihari	Charles R. Hill	Denise Ombres	Jodi Lynn Tims
	Rastislav Bodík	Ellis Horowitz	Soner Onder	Michael Whelan
	Rastislav Bodik	John Howard	Santosh Pande	Daniel Windheiser
	Melvin A. Breuer	Clara Jaramillo	Kleanthis Psarris	Wanging Wu
	Pohua P. Chang	Clara Ines Jaramillo	I. V. Ramakrishan	Wanqing Wu
	Wesley H. Cheng	Sanyay Joshi	B. R. Rau	Jun Xu
	Chi-Hung Chi	James Kajiya	Siddharth Rele	Jun Yang
	Ron Cytron	Suna Kondakci	Vivek Sarkar	Xin Yuan
	Evelyn Duesterwald	Robert Kramer	Scott A. Smolka	Xiangyu Zhang
	Michael Epstein	Arvind Krishnaswamy	Mary Lou Soffa	Youtao Zhang
	Mitchael Epstein	Sunah Lee	Mary Lou Soffa	Alessandro Zorat
	Jesse Z. Fang	Bengu Li	Madalene Spezialetti	Soner 薊der
	Chun Gong			
Michael Whelan:	Michael Epstein			
	Rajiv Gupta			

`-a`	Creates and adds the host to the diskset.

The node is rebooted into cluster mode. The cluster is ready to use.

8.3.0.1 Example—Restoring the root (/) File System (Solstice DiskSuite)

The following example shows the root (/) file system restored to the node `phys-schost-1` from the tape device `/dev/rmt/0`. The `metaset` command is run from another node in the cluster, `phys-schost-2`, to remove and later add back node `phys-schost-1` to the diskset `schost-1`. All other commands are run from `phys-schost-1`. A new boot block is created on `/dev/rdsk/c0t0d0s0`, and three state database replicas are recreated on `/dev/rdsk/c0t0d0s4`.

```
[Become superuser on a cluster node other than the node to be restored.]
[Remove the node from the metaset:]
phys-schost-2# metaset -s schost-1 -f -d -h phys-schost-1
[Replace the failed disk and boot the node:]
ok boot cdrom -s
[Use format and newfs to recreate partitions and file systems.]
[Mount the root file system on a temporary mount point:]
# mount /dev/dsk/c0t0d0s0 /a
[Restore the root file system:]
# cd /a
# ufsrestore rvf /dev/rmt/0
# rm restoresymtable
# cd /
# umount /a
# fsck /dev/rdsk/c0t0d0s0
[Install a new boot block:]
# /usr/sbin/installboot /usr/platform/`uname \
-i`/lib/fs/ufs/bootblk /dev/rdsk/c0t0d0s0
[Reboot in single-user mode:]
# reboot -- "-s"
[Replace the disk ID:]
# scdidadm -R /dev/dsk/c0t0d0
[Recreate state database replicas:]
# metadb -c 3 -af /dev/rdsk/c0t0d0s4
# reboot
Press CTL-d to boot into multiuser mode.
[Add the node back to the metaset:]
phys-schost-2# metaset -s schost-1 -a -h phys-schost-1
```

▼ How to Restore a root (/) File System That Was on a Metadevice (Solstice DiskSuite)

Use this procedure to restore a root (/) file system that was on a metadevice when the backups were performed. Perform this procedure under circumstances such as

The design of a RISC based multiprocessor chip

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3 R. Cytron, S. Karlovsky, and K. P. McAuliffe, "Automatic Management of Programmable Caches," Proc. of the International Conference on Parallel Processing, vol. II, pp. 229-238, August, 1988.

when a root disk is corrupted and replaced with a new disk. The node being restored should not be booted. Be sure the cluster is running problem-free before performing the restore procedure.

Note - Since you must partition the new disk using the same format as the failed disk, identify the partitioning scheme before you begin this procedure, and recreate file systems as appropriate.

---

1. **Become superuser on a cluster node with access to the metaset, *other than* the node you want to restore.**

2. **Use the `metaset`(1M) command to remove the hostname of the node being restored from all metasets.**

```
# metaset -s setname -f -d -h node
```

`-s` **setname**	Specifies the metaset name.
`-f`	Force.
`-d`	Deletes from the metaset.
`-h` ***node***	Specifies the name of the node to delete from the metaset.

3. **Replace the failed disk on the node on which the root (/) file system will be restored.**

   Refer to disk replacement procedures in the documentation that came with your server.

4. **Boot the node being restored.**

   - If using the Solaris CD-ROM, run the following command:

```
ok boot cdrom -s
```

   - If using a JumpStart server, run the following command:

```
ok boot net -s
```

5. **Create all the partitions and swap on the root disk using the `format`(1M) command.**

   Recreate the original partitioning scheme that was on the failed disk.

6. **Create the root (/) file system and other file systems as appropriate, using the `newfs`(1M) command**

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Recreate the original file systems that were on the failed disk.

Note - Be sure to create the `/global/.devices/node@nodeid` file system.

7. **Mount the root (/) file system on a temporary mount point.**

```
# mount device temp-mount-point
```

8. **Use the following commands to restore the root (/) file system.**

```
# cd   temp-mount-point
# ufsrestore rvf dump-device
# rm restoresymtable
```

9. **Install a new boot block on the new disk.**

```
# /usr/sbin/installboot /usr/platform/`uname -i`/lib/fs/ufs/bootblk raw-disk-device
```

10. **Remove the lines in the** */temp-mount-point/*`etc/system` **file for MDD root information.**

```
* Begin MDD root info (do not edit)
forceload: misc/md_trans
forceload: misc/md_raid
forceload: misc/md_mirror
forceload: misc/md_hotspares
forceload: misc/md_stripe
forceload: drv/pcipsy
forceload: drv/glm
forceload: drv/sd
rootdev:/pseudo/md@0:0,10,blk
* End MDD root info (do not edit)
```

11. **Edit the** `/temp-mount-point/etc/vfstab` **file to change the root entry from a metadevice to a corresponding normal slice for each file system on the root disk that is part of the metadevice.**

Thomas Bihari
Rastislav Bodík
Rastislav Bodik
Melvin A. Breuer
Pohua P. Chang
Wesley H. Cheng
Chi-Hung Chi
Ron Cytron
Evelyn Duesterwald
Michael Epstein
Mitchael Epstein
Jesse Z. Fang
Chun Gong
Charles R. Hill
Ellis Horowitz
John Howard
Clara Jaramillo
Clara Ines Jaramillo
Sanyay Joshi
James Kajiya
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Robert Kramer
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Soner 詼der

Michael Whelan: Michael Epstein
Rajiv Gupta

```
Example:
Change from---
/dev/md/dsk/d10    /dev/md/rdsk/d10    /       ufs    1     no       -

Change to---
/dev/dsk/c0t0d0s0 /dev/rdsk/c0t0d0s0  /usr    ufs    1     no       -
```

12. Unmount the temporary file system, and check the raw disk device.

```
# cd /
# umount   temp-mount-point
# fsck raw-disk-device
```

13. Reboot the node in single-user mode.

```
# reboot -- "-s"
```

14. Replace the disk ID using the `scdidadm` command.

```
# scdidadm -R rootdisk
```

15. Use the `metadb`(1M) command to recreate the state database replicas.

```
# metadb -c copies -af raw-disk-device
```

`-c` **copies**	Specifies the number of replicas to create.
`-af` ***raw-disk-device***	Creates initial state database replicas on the named raw disk device.

16. Reboot the node in cluster mode.

a. Start the reboot.

```
# reboot
```

During this boot you will see error or warning messages, ending with the following instruction:

The Gods must be crazy: A matter of time in collaborative systems

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ABSTRACT

The concept of time in traditional distributed systems has been inherited in the Computer-Supported Collaborative Work (CSCW) literature. The following assumptions have generally been made: (1) Events are atomic and their durations do not matter. (2) Total ordering of events can be achieved by some mechanical algorithm. (3) The relationship between events is determined solely by time (causal relationship). However, we observe that these assumptions are not appropriate if the goal is to faithfully preserve user intentions in collaborative systems. In particular, we discuss why and how these assumptions should be relaxed or removed in the design of collaborative editing systems.

1 INTRODUCTION

The concept of time and the ordering of events are correlated key issues in distributed systems. In the original paper of Lamport [10], each site maintains a logical clock which is advanced independently by local event executions and is adjusted by the clock values piggybacked on events which are executed by remote sites. Later, Fidge [7] and Mattern [16] independently proposed to use vector timestamps instead. In the collaborative editing community, Ellis [6] used state vectors which are fundamentally similar to vector timestamps. This new paradigm of logical times preserves the inherent partial ordering of events in distributed systems more faithfully [8].

Since its proposal in 1989, the dOPT (distributed operational transformation) algorithm [6] has incurred much research interest in the collaborative editing community (e.g. [2, 17, 19, 20, 22, 23]). This family of operational transformation based algorithms recognized the effect of non-negligible network latency and attempted to achieve high responsiveness by executing editing commands on the local document replicas immediately. Concurrent operations are properly transformed and the three important consistency properties are well maintained [23], namely, convergence, causality preservation, and intention preservation. Of particular interest in this paper is to address some issues which have been largely neglected in the collaborative editing literature.

In a synchronous group drawing session, multiple users may be drawing on the whiteboard simultaneously. As one receives an operation say b from another user, the processing (or *delivery*, as was termed in [1]) of b actually means an atomic sequence of two steps: First, render b on the screen. Second, use the timestamp of b to adjust the local time. We define the causal relationship between two drawing operations x and y as follows:

1. If an operation x is performed before y by the same user, then we say x causes y, denoted by $x \rightarrow y$.

2. If an operation y is performed by a user after the delivery of x which was performed by another user, then $x \rightarrow y$.

3. If there exists an operation z such that $x \rightarrow z$ and $z \rightarrow y$, then $x \rightarrow y$.

If neither $x \rightarrow y$ nor $y \rightarrow x$, then we say x and y are concurrent, denoted by $x || y$. For the different replicas of the same document to converge eventually, a total order $<$ must be agreed upon across all sites regarding such concurrent operations. The total order between x and y is relevant. As operations are rendered on the screen, x is always rendered before y if $x < y$. Hence if $x < y$ then object y may cover (part of) x if they happen to overlap. Two operations x and y are commutative if either $x < y$ or $y < x$ does not change the appearance of the whiteboard screen. We actually care only about the total ordering of noncommutative operations in this paper. Also note that the terms object and operation are sometimes used exchangeably.

We observe that the following assumptions are generally made in the collaborative editing (as well as the distributed computing) literature. First, events are atomic and their execution times are negligible. Secondly, the total ordering of events can be achieved by some mechanical algorithm, e.g. according to the sort order of the host address if there is a tie. Thirdly, the relationship between events is determined solely by time (causal relationship). However, we discovered that these assumptions, although sufficient in the traditional distributed applications, are no longer appropriate to faithfully preserve user intentions in collaborative systems generally and group editing or drawing in particular.

In this paper, we discuss why and how these assumptions must be relaxed or removed in the design of collaborative editing systems. Specifically, Section 2 explains how the duration of events impacts the user intention. Section 3 allows the user to participate in the decision of total ordering between concurrent events. In Section 4 we further allow the user to define active rules on objects which maintain various relationships as well as integrity constraints based on particular application semantics. A brief account on enforcing causal relationships is given in

```
Type control-d to proceed with normal startup,
(or give root password for system maintenance):
```

b. **Press CTRL-d to boot into multiuser mode.**

17. **From a cluster node other than the restored node, use the `metaset(1M)` command to add the restored node to all metasets.**

```
phys-schost-2# metaset -s setname -a -h node
```

`-a` Adds (creates) the metaset.

Set up the metadevice/mirror for root (/) according to the Solstice DiskSuite documentation.

The node is rebooted into cluster mode. The cluster is ready to use.

8.3.0.1 Example—Restoring a root (/) File System That Was on a Metadevice (Solstice DiskSuite)

The following example shows the root (/) file system restored to the node `phys-schost-1` from the tape device `/dev/rmt/0`. The `metaset` command is run from another node in the cluster, `phys-schost-2`, to remove and later add back node `phys-schost-1` to the metaset `schost-1`. All other commands are run from `phys-schost-1`. A new boot block is created on `/dev/rdsk/c0t0d0s0`, and three state database replicas are recreated on `/dev/rdsk/c0t0d0s4`.

```
[Become superuser on a cluster node with access to the metaset, other than the node to be resto
[Remove the node from the metaset:]
phys-schost-2# metaset -s schost-1 -f -d -h phys-schost-1
[Replace the failed disk and boot the node:]
ok boot cdrom -s
[Use format and newfs to recreate partitions and file systems.]
[Mount the root file system on a temporary mount point:]
# mount /dev/dsk/c0t0d0s0 /a
[Restore the root file system:]
# cd /a
# ufsrestore rvf /dev/rmt/0
# rm restoresymtable
[Install a new boot block:]
# /usr/sbin/installboot /usr/platform/`uname \
-i`/lib/fs/ufs/bootblk /dev/rdsk/c0t0d0s0
```

(continued)